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42266

WITH JAMES BRUCE IN
EGYPT

by

ROBERT OWEN

Illustrated by

HARRY TOOTHILL



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FREDERICK MULLER LIMITED
LONDON

FIRST PUBLISHED BY FREDERICK MULLER LTD. IN 1962
PRINTED IN GREAT BRITAIN BY EBENEZER BAYLIS AND SON, LTD.
THE TRINITY PRESS, WORCESTER, AND LONDON
BOUND BY THE DORSET PRESS LTD., HARLOW



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FOR
FRANCES AND ALISON
WHO HAVE YET TO SEE
THE TEARS OF ISIS

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ACKNOWLEDGEMENTS

The author and publishers wish to make acknowledgement to the following:
To Constable & Co. for permission to quote from *The Nile* by H. E. Hurst;
to Sidgwick & Jackson Limited for permission to quote from *The Splendour
that was Egypt* by Margaret A. Murray; and to Stanley Haines Esq., who
has allowed some of his photographs to be reproduced in this book.

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I

Arrival in Egypt

SUDDENLY the mist cleared, and those watching for the first sight of land gave a cry of joy. In front of them, not a mile across the calm and majestic blue waters, was a coastline. As they watched, grey and white stone buildings became clearer in outline. The sun shone brightly on the gilded tops of mosques. A notable landmark, Pompey's Pillar, stood out in clear relief.

This was Egypt.

Egypt; with its pyramids and temples and remains of earlier civilizations; with its incredible and, at times, unbelievable earthquakes; of dry desert and narrow strip of cultivated land. Egypt, and the Nile—4,160 miles in length, the longest river in the world—now the focal point of James Bruce, a passenger on that small boat which some days earlier had sailed from the port of Lernica in Cyprus.

Bruce was born at Kinnaird in Stirlingshire in 1730. He went to school at Harrow and afterwards studied law at Edinburgh University. In 1748 his studies were interrupted by ill-health and he moved south to London where, six years later, he was

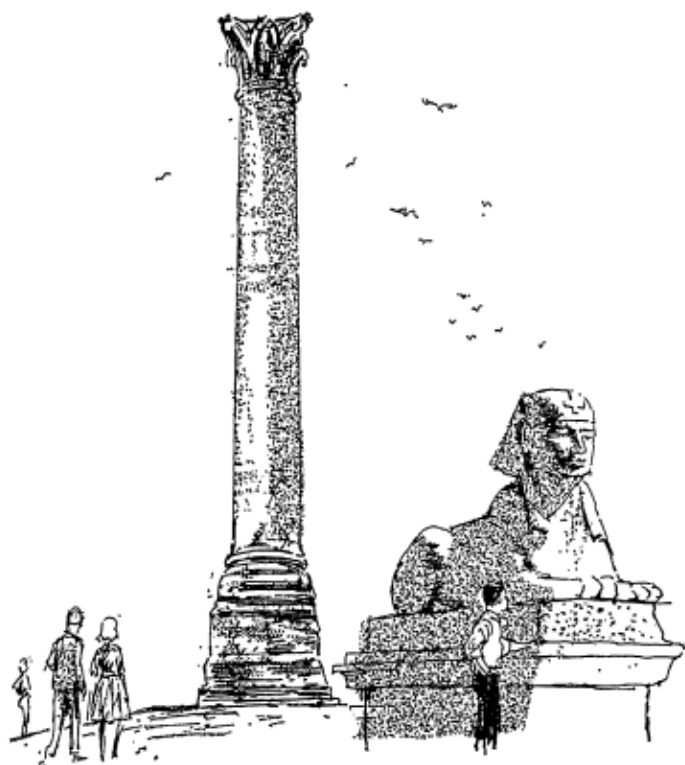
married. Sadly his first wife died a very few months after marriage which changed the tenor of his life and prospects of a career with his father-in-law who was a trader in India.

Turning to languages and drawing, this broad-built Scot, who was six feet four inches tall, began his travels in Europe. Bruce was a striking figure with dark reddish hair. Although somewhat dour in manner he had an attractive personality and generally was liked by all who met him.

By 1757 he had travelled extensively throughout Europe and certain parts of Asia. He had studied in the great libraries in Madrid. He had seen the Acropolis and Parthenon and other relics of Ancient Greece. In his travels through Italy he had visited the remains of Pompeii and the Coliseum. He had seen the works of Leonardo da Vinci and Michelangelo. He had journeyed widely in the Lebanon and through practically every country whose borders were on the Mediterranean. The wonderful places he had seen made him restless to visit Egypt, to start the journey he had planned so long; the journey to discover the source of the Nile.

At this time—the year was 1768—most travellers to Egypt from countries at the eastern end of the Mediterranean Sea were making their way to Mecca, the capital of the State of Hejaz in Saudi Arabia. Mecca is the holiest city of the Mohammedan world and stands in the desert about fifty miles east of Jedda, its port on the Red Sea. In the centre of

Mecca, close to the birthplace of the Prophet, Mohammed, is the Great Mosque. Here in the wide



Pompey's Pillar

courtyard stands the sacred Kaaba, an oblong building housing the black stone, believed by all Mohammedans to bear the imprint of the foot of Abraham.

It is probable that half of those on board with Bruce were merchants who would trade in Alexandria or Cairo. Few, perhaps, would be traveling along the Nile to towns in Upper Egypt. But no one would give a thought to where the river started its course.

The others, including many intent to reach the Red Sea and Mecca, were forced to cross Egypt and make for ports south of Suez. There they would crowd into small and precarious boats for a journey which might take many weeks.

The journey overland was equally hazardous, especially after leaving Cairo, and many who attempted it were killed and robbed. Bruce, however, had no wish to travel far on land. He knew of necessity he must visit the towns on the Nile, and certain villages and temples in Upper Egypt. He had planned that his explorations and journeyings would be made on water; perhaps by *fellucah*, a small boat or barge. For how else would he reach the source of a river?

Here was a waterway, with its origins unknown to man, playing a vital part in a nation's existence. Little had been written about the river, and the libraries in Europe contained only occasional references. Yet for thousands of years it had been the life-line of a great civilization.

The Nile is the only river in Africa to flow from south to north, and Bruce was convinced that its source lay in the mountains of Abyssinia (now called Ethiopia). This judgment was made after extensive

research and discussion. And, as we shall see, he was not wrong.

In the late eighteenth century no European knew for certain the exact location or the beginnings of the Blue and White Niles, or, in fact, any part of the centre of Africa.

The interior of the "Dark Continent" was unknown and James Bruce, by his successful journey to the source of the Blue Nile, is recognized as having begun the world-wide interest in exploring the heart of Africa. This became almost an obsession in the nineteenth century and brings to mind many famous names including David Livingstone, Richard Burton, J. H. Speke, and H. M. Stanley.

The River Nile, which flows 3,193 miles before reaching the Egyptian border, has four tributaries, the Kafu, Sobat, Bahr el Azrak (the Blue Nile) and the Atbara. The river is fed also from lakes in Uganda and northern parts of the Sudan. In its course the Nile carries the name of Victoria Nile, Albert Nile (from the names of Queen Victoria and Prince Albert), Bahr el Jebel (river of the mountain), Bahr el Zeraf (river of the giraffe), Bahr el Ghazal (river of the gazelle), and the Bahr el Abiad (the white river).

Flowing almost due west from Lake Tana in Abyssinia is the Bahr el Azrak (the Blue Nile)—to some people still the more powerful river, and certainly the more important for Egypt.

The Blue and White Niles meet just south of Khartoum in the Sudan which, in 1768, was part

of the Egyptian Empire. Here has been formed a small island which had been given the name of Tuti. The Blue Nile, bringing as it flows a tremendous amount of silt, suddenly makes a wide sweep to the north. The White Nile—flowing more slowly, in spite of having fallen many hundreds of feet from its source high in the mountains of Central Africa—meets at Tuti and sends the waters around Khartoum into a muddy, bubbling turmoil.

Tuti, an Arabic word which when translated means Mulberry Tree, has during many hundreds of years collected this silt and is now a very fertile island.

Spanning the river is a fine iron bridge which carries a large and varied volume of traffic between Omdurman and Khartoum. Standing on this bridge gives a wonderful opportunity to see the bright green of Tuti and the adjacent Gezira.

Bruce, however, was certain that the main stream was the Blue Nile, the *Bahr el Azrak*, with its source somewhere in Abyssinia. In this he was right, for the beginning of the Blue Nile is almost exactly where Bruce thought. Unfortunately, he did not realize that in his journey he would be tracing the origins of the most vital of the four *tributaries* to flow into the main stream.

The world was to wait a further hundred years, to 1864, when J. H. Speke, during his explorations in Uganda, discovered the true source of the River Nile.

On board the boat bringing James Bruce towards the

North African coast were traders and merchants—Arab, Asian and European—who were fond of filling in their days and nights by telling elaborate and, at times, highly imaginative stories of the places they had visited. Bruce, however, was no stranger to travellers' tales. In fact, he had made good use of some of them before planning his journey.

Many of the stories were variations on those he had heard during his residence as British Consul in Algiers some ten years earlier. Some might easily have come straight from the *Arabian Nights*: stories of strange countries in Africa, with natives who were bigger than giants; and of men who were smaller than children. Of gold and ivory and precious stones. Of ornate palaces and gold-covered temples. Of rivers, of the Nile, and of Abyssinia . . .

His period as British Consul had been most fortunate, for it was in Algiers that he had the opportunity to study the literature and language of the Arabs, enabling him later to travel through all Arabic-speaking countries with tremendous confidence and sympathy.

This study was an immense task, for there were many different dialects, each one introducing new words and idiom. Today, there are still variations of Arabic, the language spoken throughout the countries which extend from the Atlantic coast to the Persian Gulf and from Syria south to the coastal towns of Tanganyika.

But before leaving Algiers Bruce had to decide on his method of travel.

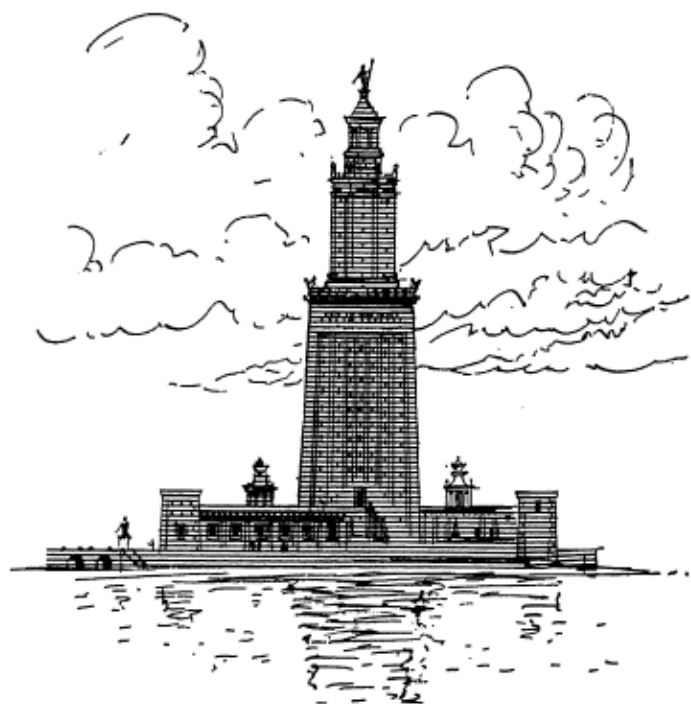
This would, as far as possible, be by boat. He would journey, he hoped, the entire length of the Nile. To move as safely as possible through Egypt and later through Abyssinia he would obtain wherever he could letters of introduction to the local rulers, sheiks and village chieftains, a means of introduction common in the eighteenth and nineteenth centuries when means of communication were practically non-existent, and at a time when but few Europeans had been seen south of Cairo.

The boat from Cyprus continued towards Alexandria. The clearing of the mists surrounding the city had exposed a low coastline stretching across the horizon as far as one could see.

The city, built by Alexander the Great in 332 B.C., should have been one to delight a man so interested in ancient remains and the culture of early civilizations. Bruce, however, was sceptical, even before reaching land. He knew what a vicious and varied history Alexandria had had, and expected disillusionment at what he would find.

How he felt he recorded in his journal: ". . . the mixture of old monuments such as the column of Pompey, with high Moorish towers and steeples, raise our expectations of the ruins we are to find. But the moment we are in port the illusion ends, and we distinguish the immense Herculean works of ancient times, now few in number, from the ill-imagined, ill-constructed, and imperfect buildings of the several barbarous masters of Alexandria in later ages . . ."

This may have been unkind—but Bruce was not in Egypt only to look at the ruins; he was after something more positive. The towns he felt, apart from a cursory interest, were a means to an end. They, and



A conjectural reconstruction of the Pharos Lighthouse

the peoples who lived in them, must be used were he to complete his journey.

Bruce suddenly realized the vessel was passing the site of the Pharos, the lighthouse built by Ptolemy II

(283-247 B.C.). This marble tower had been erected on an island in the harbour and was regarded as one of the Seven Wonders of the World.

The building is now no more, but from descriptions in ancient books, by coins, and by comparing many carvings in temples and tombs, it has been possible to produce the reconstruction shown on page 19.

On landing in Alexandria Bruce began making preparations for the move to the mouth of the Nile. Servants had to be found and a means of travel; neither easy in a strange city!

With his knowledge and appreciation of eastern countries and the people's way of life, Bruce had learned the value of the horse as a means of transport, and had included in his baggage a saddle and bridle. Both were to be required before he reached the river. It may seem strange that in a desert country a traveller should remember his saddle and bridle. Where were the camels? Surely with the difficulties in front of him Bruce could ill-afford the space in his limited baggage for equipment for horse-riding!

Of course the saddle and bridle proved most essential, as we discover when Bruce finally left Alexandria. However, before commencing the journey servants were essential.

Few Nubians—for it was these whom Bruce would seek—could be persuaded to leave their homes, especially as he was not in a position to know how long his journey might take. They were, we read, reluctant to travel with him as far as Rosetta,

a town on one of the branches of the Nile some eighteen miles to the east, where Bruce anticipated he would find a suitable vessel.

Bruce was forced to stay for some days in Alexandria, a bustling port with much of the trade and commerce of Egypt passing through her harbour. Today, even though the Suez Canal has taken shipping to a more easterly part of Egypt and with it a large proportion of the import and export trade of the country, the city of Alexandria is still a great commercial centre. Her very position ensures this, for here we find a port with two large and natural harbours at what might be called the crossroads of Europe, Asia and Africa.

The population of Alexandria, like the population of all larger towns in Egypt, is increasing at a considerable rate. In the 1947 census—the last accurate count undertaken—Alexandria was shown to have 938,237 inhabitants. In 1961 the government indicates the population is approximately 1,200,000. This latest figure clearly shows the movement of people away from the lands of the Delta, especially since the Agrarian Reform Laws were introduced in 1952.¹ It also shows that industrial development, which has been centred in the larger towns, is attracting people from remoter regions.

The *Bourse*, or Exchange, situated in a main square in Alexandria, daily announces the price of Egyptian

¹ The impact on Egyptian agriculture since the Agrarian Reform Laws were introduced is discussed fully in a later chapter, as is the pattern of recent industrial development.

cotton, the mainstay of the country's agricultural programme and representing forty-one per cent of her export trade.

In the summer months the city becomes crowded. With holiday-makers are the workers in government offices who move from Cairo to escape the high temperatures and dry atmosphere of the capital.

The layout of the city, together with the magnificent Corniche or coastal road, which extends for more than twenty miles, has brought to Alexandria a name it jealously guards—"pearl of the Mediterranean". The development of the city and the prosperity which Alexandria has had during practically all periods of history is watched with envy by many other famous ports in the Mediterranean Sea. Today it is very much a Western city; its buildings and amenities being what we might expect in any large European port. Yet Alexandria retains that certain charm and magic which only Eastern countries can offer.

When Bruce arrived in 1768, the city was surrounded by desert. The fertile land created by irrigation had not then reached its borders. Today Alexandria is poised in the fertile area, and desert both to the west and south is slowly being reclaimed for agricultural development and the housing of the increasing Egyptian population.

Eventually Bruce managed to persuade four young Arabs to travel with him as far as the Nile, but not beyond! His small party set off, making their slow

way to Rosetta, a town at the mouth of the western branch of the Nile. Between Rosetta and Damietta, which lies at the mouth of the eastern branch, was the only land in the Delta area suited to growing crops. With the river annually bringing in its flow a large quantity of silt, Egyptians, for thousands of years had learned how to sow and harvest *between* floods, sometimes having three yields.

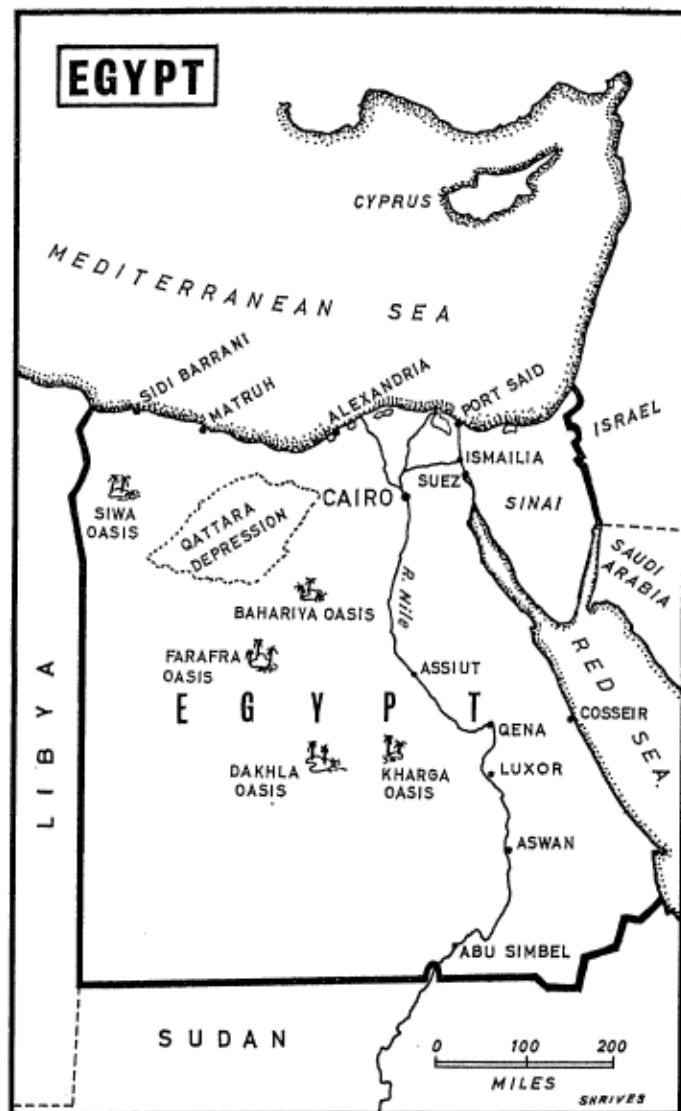


The harbour at Alexandria, showing Cleopatra's Needle

At the time of flooding the top soil would be swept into the sea and with it the land on which the people had lived. The patient *fellahin*, or peasant, would wait. Soon the silt would return and the crop-growing and harvesting would begin all over again.

Ancient Egyptians believed the floods came from the tears of Isis, the goddess of the Nile, who mourned the death of her husband Osiris. Later it was believed the sun moved south in winter and dried up the waters at the source, and when summer came, the waters once again came into flood. The

EGYPT



Nile begins to rise after the heavy rains in Central Africa in July, and reaches its maximum flood in Egypt in August and September.

For thousands of years the people wondered why the gods so ruthlessly destroyed the land on which they lived? Surely something annoyed these gods who lived in the south? Surely this great power in the south must be worshipped? Temples were erected, and many references, some going back more than four thousand years, show that the Nile was treated as a great and, at times, angry god.

Utilizing the waters had for centuries been the main occupation of the people. They irrigated the land on either bank of the river by digging a series of canals and cross channels, making the entire area appear from above as a gigantic chess board. Similar methods of irrigation are still used today, with one major difference. By a series of barrages and dams the river is controlled to enable only that water necessary to fill irrigation channels to be released. Mechanical aids are used to pump the water at different levels, though generally the methods employed in the mid-twentieth century are similar to those used for the past five thousand years. We shall read later about the various devices used in reclaiming and maintaining the Delta lands.

At last Bruce, to his great joy, left Alexandria.

His journal records: ". . . our road lay through very dry sand; to avoid which, and to seek firmer footing, we were obliged to ride up to the bellies of our horses in the sea. All Egypt is like this part of it,

full of deep dust and sand. It is this fine powder and sand, raised and loosened by the heat of the sun, and want of rain or dew, and not being tied fast by any root or vegetation, which the Nile carries off and buries in the sea. . . .”

His first stop would be at Aboukir, a few miles east of Alexandria, a village with remains of early buildings and built on the site of the ancient city of Canopus. Today Aboukir is a suburb of Alexandria with a magnificent beach and wide promenade which is continuous for many miles along the blue and golden coastline of the Mediterranean.

Bruce camped that first night outside the village boundary, intent to make an early start the following morning, moving east towards Rosetta. East towards the River Nile . . .

2

At the Mouth of the Nile

EGYPT, centuries before Bruce, had been the scene of great and terrible battles, many of which, in Greek and Roman times, were "classics" of their kind. During the two hundred years which have elapsed since Bruce passed through the country, horrors of war have again frequently come to this vulnerable country. One such decisive battle was the Battle of Aboukir Bay where, in 1798, Nelson destroyed the main part of the French Fleet.

The Battle of Aboukir, perhaps better known as the Battle of the Nile, was a complete and utter disaster to the French in their ambition to conquer the world.

Had James Bruce arrived in Egypt thirty years after 1768 he might well have had a grandstand view of this famous battle. Especially as he was making the journey along the coast from Alexandria to Rosetta.

His travels to the River Nile at the end of the seventeen-sixties were not arousing very much interest. In fact, few knew his ambitions. But in 1798 things were different. Napoleon had arrived with

many purposes, one being to cut a canal between the Mediterranean and the Red Sea, which, had this been possible, would have put him in a position to harry the British in their developing empire in India and beyond.

With his armies in Egypt, and the peoples subdued, Napoleon felt quite secure. More than forty vessels of his fleet were at anchor in the sheltered bay at Aboukir. The British Fleet, somewhere in the Mediterranean, was very short of provisions and attack was unlikely until her ships' stores had been replenished. So thought Napoleon. But Nelson had others ideas, and on July 31st he sailed into battle.

Between Aboukir and Rosetta, a distance of perhaps fourteen miles, in the middle of a large flat area of land, stood an unusual "tower" which was not part of any village. Today, nowhere can be found any mention of its origin or what happened to it, but from the top of the tower could be seen a wide view of the Delta region and, westwards, the sweep of the bay of Aboukir.

Lying just below sea-level this particular coastal region of Egypt is so flat that when less than half a mile out at sea it is not possible to see trace of buildings or trees. It is therefore natural that all travellers here sought to find patches of high ground or anything which would give an altitude to enable the Mediterranean and the Delta to be observed. But there were dangers in leaving the recognized route which was signposted with large stones. The

flooding of the Nile at the times of the inundation had made areas of the sand very soft and most unsuitable to man and horse.

Bruce mentioned once or twice in his journals that he frequently went to those places which he felt would give him the opportunity to see the nature of the land through which he was passing, but made only fleeting comment on the dangers of leaving the known route.

However, in 1798, thirty years after Bruce, a member of Napoleon's *entourage*, the famous French explorer, M. Vivant Denon, was making the identical journey to that made by Bruce; moving through the coastal land from Alexandria to Rosetta, and then turning south towards Cairo.

Seeing the tower, and having been forewarned that the area through which he was travelling had few prominences, Denon decided to climb to the top. There, to his astonishment, he saw the formidable sight of "twenty sail about to enter the Bay". In his book, *Travels in Upper and Lower Egypt*, published in 1802, he writes: "These vessels arrived, formed a line of battle, and attacked the fleet of the French, almost in the same moment. We heard the discharge of the first cannon at five o'clock. Soon after this, the smoke concealed the two fleets from our sight; but when it became dark, we were able to distinguish better, though we were too far off to understand what was passing.

"The rolling and redoubled noise of the cannon was continual; we saw the battle was terrible; and

that it continued on both sides with equal obstinacy. Towards ten o'clock a strong burst of light showed a fire to have taken place in the fleet; the same minute came a dreadful explosion, and then, a profound silence. At eleven o'clock, a slow fire recommenced; at midnight, the battle was completely renewed; but at two o'clock in the morning it ceased again.

"At daybreak the cannonade began once more. At nine o'clock a second vessel blew up. At ten, four ships, the only ones that remained entire, which I recognize to be French (and which I do believe to be the victors) withdrew from the scene of battle."

The tragedy of this story is that it was many weeks before Denon realized he was on the losing side. He had watched, alone, the beginning of the end of Napoleon's conquest of Egypt and hopes of what this would bring to the French nation.

One thing we know, however, is that Bruce stopped his party (as did Denon) shortly after leaving Aboukir. Partly buried in the sands at the water's edge were to be seen remains of a vast temple. Many of the stones were covered beneath the sands, but Bruce noticed particularly a granite structure "more than thirty-six feet in height, lying face downwards in the shallow water". The out-pointed first finger attracted his interest. This was fourteen inches long.

The position of the finger and the shape of the arm made it certain Bruce was seeing one of the early nilometers. These are, as the name indicates, used for measuring the height of the waters of the Nile.

There were many nilometers in ancient times, for the height of the river was then, as it is today, the one factor which determined the country's prosperity for the year. The measurement of the water at given points has been recorded for hundreds of years.

At Cairo we can still find the nilometer constructed during the year A.D. 870. This is in the shape of a square well connected with the Nile by a narrow canal. In the centre is a simple column marked off in a graduated measure of cubits (21.38 inches). Prior to the twentieth century, the rise of the Nile reaching nineteen cubits was considered satisfactory; twenty-two cubits was excellent, but twenty-four cubits read flood and disaster and ruin for the Delta region.

With the control of the water by dams and barrages, the present reading of twenty-four cubits at Cairo (now a *low* average) does not create any problem. Today modern gauges are in many positions, including Cairo, Aswan and other places in both the Blue and White Niles far beyond the borders of Egypt.

The nilometer Bruce saw at the extreme edge of the Mediterranean—about seventeen miles from one of the two main channels taking the Nile to the sea—remains a mystery. Why was it near Aboukir? For how long had it been lying partly submerged by water? Such questions can never be answered, for thousands of years ago the Nile divided into many streams at its mouth.

The silt brought down by the river has been raising the level of the land in the Delta by many inches each century. This, together with the constant lapping of the waters at the northern coastline of Egypt, has caused many of the remains of early temples and, as we see, nilometers, to sink deeper into the soft, silt-covered sands.

Most of the great tombs and temples to be found in Upper Egypt came to light only after excavation many feet below the average level of the land. The illustrations appearing facing pages 104-5 show this more clearly. It is certain, also, that many of the great buildings and monuments built by the ancient Egyptians will never again be seen: they are buried beneath recently built villages and townships which will last much longer than the mud-made hutted encampments of years ago.

Claims are made that beneath a famous mosque in Alexandria are the ruins of the fabulous Library developed by Ptolemy I and destroyed during the reigns of succeeding kings. As this mosque is on hallowed ground no Egyptologist, archaeologist, or others interested in bringing to light the remains of bygone ages, can make any excavations, even by using probes and modern scientific methods, which would prove whether any remains exist.

James Bruce moved on and soon saw the walls of Rosetta. In the late eighteenth century this town was of great importance to travellers from Palestine, the Lebanon, and Syria. It was here they rested and refreshed themselves before making the last part of

their journey to Alexandria or Cairo. Such travellers did not know Rosetta under that name. It had for centuries been called "Rashid", the word "Ras" meaning headland or cape.



Rosetta, which for centuries had been called Rashid

In his journal, Bruce records: "We saw, after leaving Aboukir for Rashid, two or three gazelle or antelope and only one vegetable, *absinthium*.¹ Near to Rashid were to be found date trees, banana trees and sycamores."

The walls surrounding Rosetta showed what a

¹ *absinthium*: a plant favoured for its essence.

large township this had been. The streets were dark and frightening to Bruce as he rode in. Houses had been built with each storey projecting into and across the street. Beneath flat, mud-baked roofs, top storeys almost touched each other.

Bruce now had two important tasks: to find a boat and crew to take him to Cairo, and to dismiss the Nubian servants who had travelled with him from Alexandria. He decided he would wait a few days before searching for a boat and hoped his fellow-travellers would remain with him until he finally set sail.

A difficulty arose. The Nubians were not happy to waste their time in a strange city and argued they be paid off and allowed to return to their homes.

Although this was the last thing Bruce wanted, he was prepared to honour the bargain he had made when he engaged them, but begged them to stay with him until he found some accommodation for the night. His companions were firm and positive in their demands. They mistrusted this European who was rash enough to want to travel to the source of the Nile.

Quizzed by the servants to give a reason for his madness in this projected undertaking, Bruce pointed out as best he could that he was not there to "fly the flag" or to make a "missionary journey" of exploration. He rightly claimed he was a "scientist-explorer", something completely new in 1768.

However, the servants were not happy. Surely, unless they were allowed to return to Alexandria the

European might force them to sail with him or perhaps he would shoot them with one of the four different guns he carried!

The day was saved before sunset. Bruce accepted an invitation to stay at the home of a Mameluke who hoped James would remain until all arrangements regarding a boat and crew had been made. Bruce bade farewell to the four Nubians, paid them their dues and thanked them for their company from Alexandria.

Not very much was written by Bruce about the Mameluke although we do have a description of the banquet given in honour of this brave "Englisher".

Mamelukes were world-renowned for their fighting skill and courage and many were brutally massacred by Mohammed Ali in Cairo in 1811. An earlier class of slave they became, by their skill and leadership, rulers of Egypt and Syria until 1517. Even to the time of their massacre they remained very much the ruling class.

The large house in which the Mameluke befriending Bruce lived was built on the banks of the Nile. The furnishings consisted mainly of mats, carpets and cushions. Late that evening the banquet commenced with the entrance of a large number of servants bringing cold and perfumed water, pipes and coffee.

Half an hour or so later a most ornate and beautifully designed carpet was spread, around which was placed "a border of three or four kinds of bread and cakes, whilst the centre was covered with little plates

of fruits, sweetmeats, creams and other products of the dairy, all of which were highly perfumed". When these had been tasted—it is common today in Middle Eastern countries to start a meal with rare, exotic sweets—the carpet was cleared and the servants began again to cover the entire area with bread and immense dishes of rice, dressed with fresh beef and milk, half sheep, large quantities of veal, boiled heads of sheep and calves, and numerous other dishes piled on top of each other, containing vegetables, sweets and honey.

Bruce, who had previously experienced Arab hospitality, sat amazed. "Having no chairs, no plates, no spoons or napkins, the entire company, squatting on their heels, helped themselves to the rice with their hands and divided the meat with their nails."

When this meal ended, napkins were brought—a little too late for Bruce—and rose-water was sprinkled on all people present.

Next morning the Mameluke suggested that he went with Bruce to examine the possibilities of finding a boat and crew. He made it clear that this would be no easy matter—even for a journey to Cairo.

Bruce was impatient. He had spent a happy evening in a house on the banks of the river and was anxious to see for himself the mouth of the Nile.

His host could not understand this urgency. He asked whether he might be permitted to show Bruce the "pleasures of Rashid and the luxurious gardens by the river"! Happy at any idea to get nearer to the commencement of his journey, Bruce accepted.

A description of Rashid (Rosetta) is found in the writings of Leo Africanus, a famous sixteenth-century traveller: "The city of Rashid was built not far from the place where the Nile discharges her streams into the sea. It contains most beautiful houses and palaces, and built upon the shore of the Nile, a fair market-place surrounded on all sides with shops. Near to the city are to be found many fields of dates and the ground yields an abundance of rice."

So much for Rosetta in the sixteenth century. Bruce found it in the eighteenth century a dark and unfriendly and untidy town. In the twentieth century, the beautiful houses and palaces described by Africanus have long been replaced by pathetic mud-walled houses, patched with odd pieces of tin.

Yet it was at Rosetta that one of the world's most important relics of the past came to light more than thirty years after Bruce had left. This was the discovery of the Rosetta Stone, an irregularly shaped slab measuring about 3 ft. 9 in. in length, 2 ft. 4½ in. in width, and 11 in. in thickness, and now in the Egyptian Gallery in the British Museum.

The Rosetta Stone was discovered after a wall was demolished by Napoleon's armies. It is claimed that the stone was incorporated in this wall and, when it was found, an officer of French Engineers realized its possible uniqueness, as the slab of black basalt bore three different inscriptions. As the last of these was in Greek it seemed likely that the stone might repeat the same message. In examining the illustration facing page 40 we see this was a reasonable assumption.

The finder decided to send the stone to Cairo where it aroused the deep interest of the scholars who had been brought out from France to examine all antiquities which, at that time, were not catalogued and recorded. But nobody could decipher the first and second inscriptions.

Napoleon, who was showing great interest and curiosity in many of the antiquities which were being sent to Cairo for examination, ordered copies of the inscriptions on the stone to be taken and sent to scholars in Germany and France. But again, no one could decipher or make any sense of the inscription.

After the capitulation of the French in 1801, the Rosetta Stone was brought to England with several other important relics of Ancient Egypt. By the middle of 1802 an English translation of the Greek inscription had been made. This was compared with the Demotic¹ characters, the second of the three inscriptions. Once these Demotic characters were deciphered it seemed possible to unlock the secrets of the first, the hieroglyphic form.

Thomas Young, who first saw the Rosetta Stone in 1814, studied the hieroglyphics and recognized that the inscription showed a series of signs—each of which could be linked with the Greek. This was a tremendous achievement, especially as thirteen years had elapsed since the Stone was first discovered. Hundreds of scholars throughout Europe had, by now, examined the Stone to no avail. In 1822 the

¹ Demotic: a cursive form of hieroglyphic in use at the Ptolemaic period (323–30 B.C.).

famous French scholar, Jean François Champollion, corrected and enlarged the list of the symbols which had been compiled by Thomas Young, and to him went the credit for the work which has enabled the world to possess a key to Egyptian hieroglyphics, the foundation on which all successive Egyptologists have worked.¹

James Bruce, who had spent four days at Rosetta, at last had found a boat to take him through the Nile Delta to Cairo—but not beyond. The craft looked extremely delicate. It belonged to a merchant who claimed he had navigated this part of the Nile for many years, both in flood and when the waters were low, and knew each and every current!

Bruce embarked on June 30th, 1768. At last he was on the River Nile, beginning his journey to discover its source.

¹ The actual discovery of the Stone and the subsequent researches into its meaning have been the subject matter for many excellent books; your Public Library will be able to produce a list of these.

3

In the Delta Region

IN his journals, Bruce tells of the dangers he had been led to expect in his travelling through Egypt. Again he was reminded of the travellers' tales!

He had been told how masters of vessels plying the river, land strangers amongst robbers. But his immediate fear was not that he would be put ashore at some out-of-the-way place. He was afraid the vessel on which he now found himself would "never make Cairo, so primitive is its construction".

All went well and in four days the outskirts of Cairo were seen.

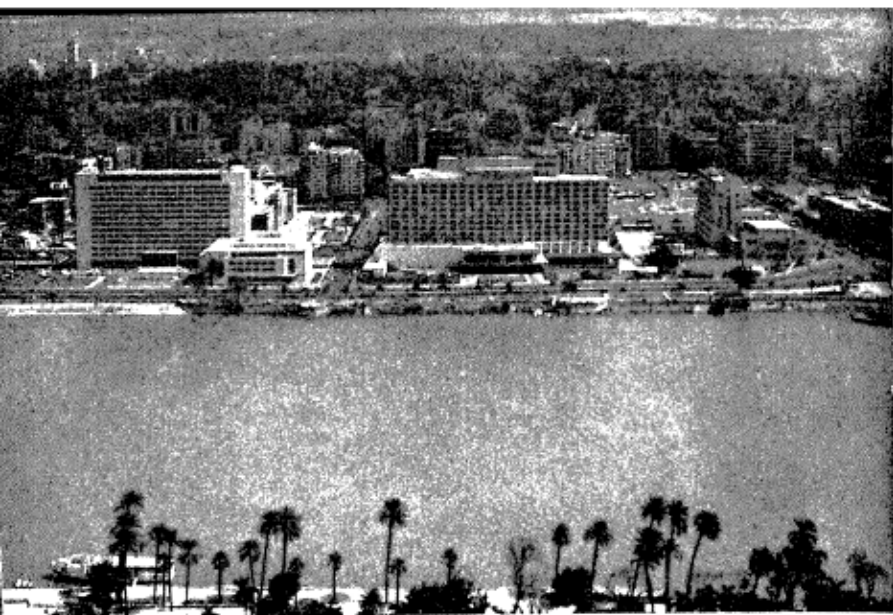
At the beginning of his journey the Nile was a swirling mud-brown expanse of water. On both banks, standing erect like part of a strange military parade, were rows of palm trees showing clearly their heavy crop of dates. The irrigated land, particularly to the east, seemed to reflect a most luscious green.

The sky was cloudless as it is for most of the year. Such breeze as there was appeared dry and warm.

Bruce noticed the huts on the river's edge were

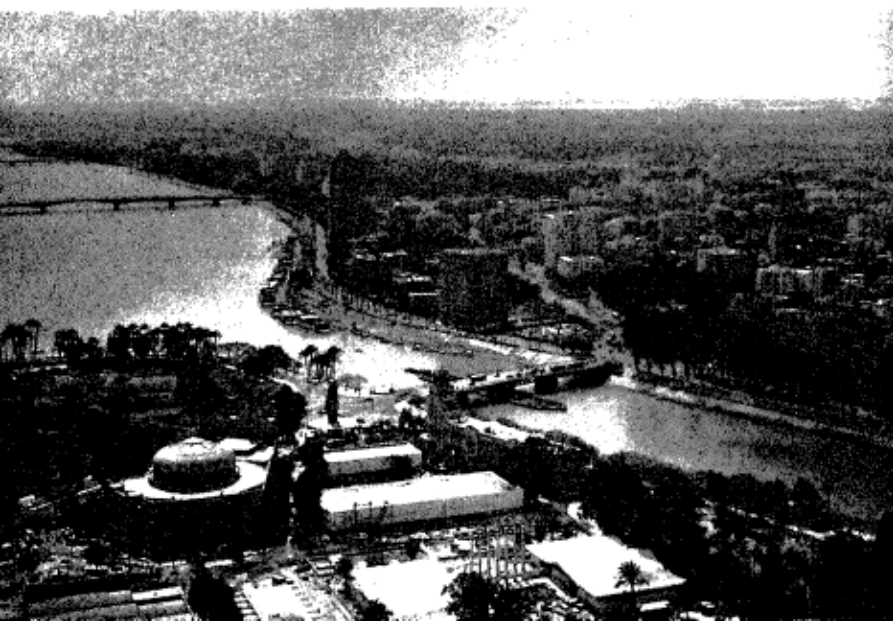
(Right) James Bruce
(Below) The Abou el-Abbas
Mosque at Alexandria

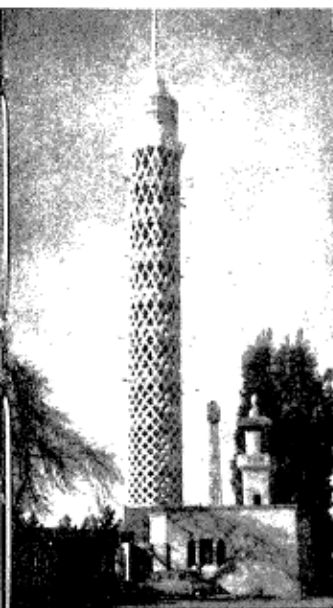




(Above) Cairo from the tower on Gezira Island

(Below) Another view from the tower, looking south

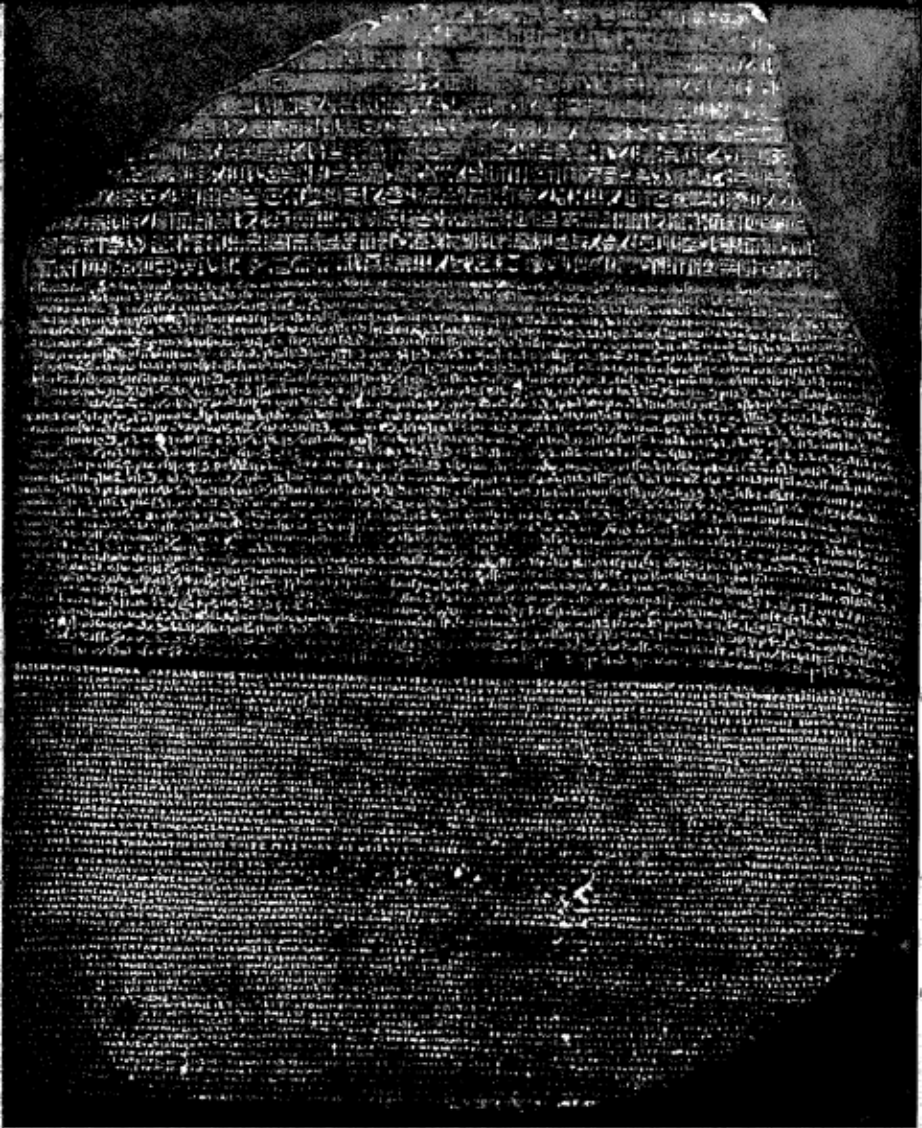




(Above, left) The tower on Gezira Island (Above, right) The Mohammed Ali Mosque at the Citadel with the Moqattam Hills in the background

(Below) Modern Cairo. El-Tahrir Square in the centre of the city





The Rosetta Stone

made of mud and few had roofs. Occasionally a hut or house was seen with a roof made from palm leaves resting as on a mat, which was certainly no form of protection in an area where rain might be expected. But rain in Egypt is practically unknown. The people of the Nile had learned that the mat-like roof, apart from protecting the interior of the homes from the fierce rays of the sun, was a good insulator, and kept the home cool.

Mornings in Egypt invariably are heralded by a thick mist which clears after an hour or two of sunshine. This mist makes the huts and houses very damp for the early part of each day.

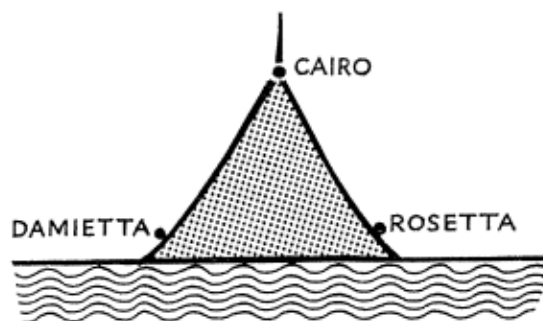
Little could be seen from the deck of the boat taking James Bruce towards Cairo. The level of the land, now that the floods had subsided, being slightly above the level of the Nile, gave little opportunity to anyone travelling by boat to see the Delta landscape. Also the method of basin irrigation meant that banks of mud were built parallel to the river, which also prevented anything of the Delta being seen.

The name Delta was given by the Greeks on account of its resemblance to the Greek letter D (Δ). The first Delta was, of course, an island and is illustrated on page 42.

Today, when approaching Cairo by air, the Delta is a vastly different shape and covers an area of irrigated lands measuring approximately 13,500 square miles.

Perhaps of all the sights in Egypt this view of the Delta is the most exciting. To most travellers their

first view of the Pyramids is something never to be forgotten; to others the magnitude of the temple area of Thebes is beyond their expectations. But considering the importance, both historically and geographically over so many thousands of years, and the applied skill in reclaiming the desert land by utilizing to the maximum the waters of the Nile, a panoramic view makes the Delta and Nile Valley something almost unbelievable.



The land of the Delta, when seen from above, is a vast chessboard pattern of very small plots of land surrounded by canals, narrow channels and streams, all emanating from the Nile. The pattern of the wider canals feeding the smaller channels, and the smaller channels themselves feeding the thinnest of streams emphasizes the minute fields. Of course, from an aircraft, the irrigation of the land from the streams, cannot be observed, but throughout the hours of daylight, the *fellahin* (farmer-peasant) is slowly and rhythmically, bucket-by-bucket, lifting

the water and laboriously emptying it into even smaller gullies.

Less than ten years ago, the *fellahin* were despised by the large and wealthy landowners and made to work by using the most primitive of constructions. In 1952 the Government introduced an agrarian reform programme preventing anybody owning land in excess of 100 *feddans* (110 acres), though the average holding is still less than one acre. This was drastic and revolutionary action for it finally broke down the large holdings which, at times, could be measured in thousands of acres. The Agrarian Reform Law gave to the *fellahin* the opportunity to own a piece of land, and today groups of *fella* farm in co-operative movements. Usually a co-operative is centred in a district or about a village. This collective action enables them together to possess the implements necessary with which to farm, though the irrigation methods remain.

Financial assistance from the Government is available to make this reform programme effective, and everything is done to encourage the smallholders to pool together their effort, making for greater productivity and easier handling of the harvested crops.

As was to be expected the first years of the Agrarian Reform Law produced an enormous number of difficulties and problems; not the least amongst the dispossessed landowners who now saw their power fading for ever. The *fellahin* also were shocked; at no time had they known anything about

farm management and the problems of marketing their harvest. The large landowners for years had made do with only the essential equipment and this was, in most cases, old and cumbersome and worn out. With the Reform Law the Government had undertaken to supply the necessary capital for equipment, yet at the beginning the Ministry of Finance allowed a credit of £1,000 only to cope with all the expenses of this vast and intricate reform.

Soon the Government was made to see the problem and increased the credit during the first year to £600,000—still very far from enough to pay compensation to those who were to give up their land; to repair irrigating machines; to buy and supply fertilizers and seeds; to purchase transport and fuel, and to pay the cost of general administration and upkeep of the delegates whose job it was to see the Laws enforced.

Egypt, by creating such a complex reform to her agricultural programme, has invited criticism—more especially as agriculture is such an important part of the nation's economy.

In differing forms agrarian reform laws and acts of land re-distribution have been effectively applied in many countries, including Finland, Yugoslavia, Italy, Poland, and Turkey.

But the basic problem of all farming and agricultural development is water. In those countries where rainfall is slight the problem is tremendous; even though a river may be in the centre of the territory.

The two principal methods of irrigation in Egypt are basin irrigation and perennial irrigation. During the past centuries the systems of bringing water to the fields have changed very little. Until dams and barrages were constructed towards the latter part of the nineteenth century, the actual flooding of the Nile in September was the only time the *fellahin* had sufficient water—and then, more often than not, the floods would bring disaster by removing the soil on which the crops were grown.

One method of irrigation used, which is still applied in Middle and Upper Egypt, was the basin system. In this, the land is divided into plots, some up to 30,000 acres and some less than 500 acres. A main bank is built parallel to the Nile. Then subsidiary banks are built at right-angles to this. The subsidiary banks sometimes extend to the very extreme of the desert. At the end of August, and during September, when the water rises, it is allowed to penetrate through prearranged gaps in the main bank to fill the basin area. The depth of water allowed in the basin averages from three to six feet.

Once the basin is filled, the gaps in the main bank are closed and the water retained for a month or so—during the entire period of the flooding. When the river starts to fall, the water in the basin is released and allowed to drain back.

During the period of flood, the Nile brings a large deposit of silt and this is left behind after the basin has been drained and emptied. Over many thousands of years this system allowed tens of thousands of

acres of land to have a perfect soil, ideally suited for the growing of wheat, beans and barley, which are sown by scattering seed. This is done in October and November for harvesting in March of the following year.

But the system of basin irrigation produced a problem for the villages. It has been claimed that Menes (3400 B.C.), the first King of Egypt, found the answer. The villages were all built on mounds, above the level of the main bank. Today, remains of many villages in the Delta and along the eastern bank of the Nile Valley are found, all with foundations as on a series of hillocks.

Bruce mentioned in his journals that he first saw the Pyramids at Giza as though they were rising out of the water. This is possible. Old lithographs and pictures painted before 1900 have often shown the Pyramids reflected in water. But not the waters of the Nile. The land west of Cairo was, until early in the twentieth century, one of the great "basin" areas.

Today, at Assiut, we find above the barrage the vast tracts which are still part of an enormous basin-irrigated district.

However, most of Egypt is now using perennial irrigation, and harvest two or three crops a year. With the building of barrages and dams the *fella* is able to have a supply of water every two or three weeks throughout each year. The releasing of water in this way, water which has been stored at the times of the flood, has given a new conception to the agricultural

progress of the country. No longer does the Delta region fear the September floods; no longer is the land parched and barren for most of the year.



A fella using a shadoof

We will later in this chapter be reading of the work of barrages and dams, but before doing so we must first consider the means of lifting or pumping the water from one level to another.

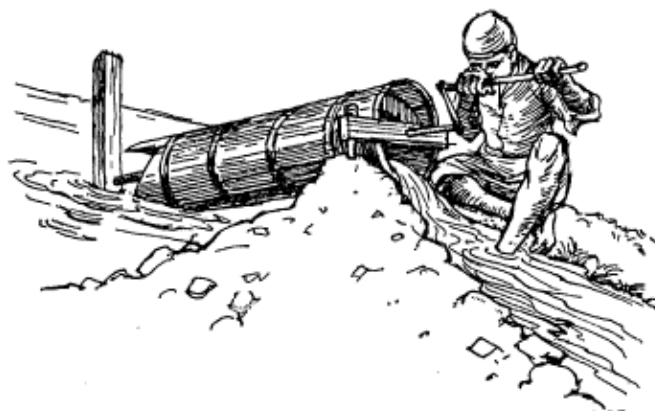
The entire Delta region is sub-divided many times over by canals and channels, each of which is responsible for carrying water later to be lifted or pumped into the irrigation ditches and gullies.

One method for lifting water, dating back many years before the birth of Christ, is the *shadoof* (sometimes anglicized as *shaduf*). This is probably the most simple of all. A long arm is pivoted slightly off the point of balance and is weighted with a large stone. The operator, in this case the *fella*, lowers the bucket which has been attached to the extreme tip of the arm into the canal. Then, helped by the counterweight, he lifts the bucket (which most times is only half full!) and empties its contents into an irrigation ditch or gully. This monotonous and ineffective method continues day after day from dawn until dusk.

Another implement seen in the Delta is fundamentally simple, but, nevertheless, is an ingenious and scientific way of raising water. This is the Archimedean screw which was introduced into Egypt by the Greeks. A wooden cylinder is mounted on two posts and rests at an angle of thirty degrees. The lower end is placed into the canal and the screw, when turned, lifts the water up to the field. The illustration below shows the action. The turning of the screw is mostly hand-operated, though occasionally one will find a low horse-powered engine working throughout the day and night.

The *sagia*, common in most of Egypt, is a complicated piece of machinery, yet of very primitive

construction. But on the whole, it is more effective than either the *shadoof* or Archimedean screw. Here again a petrol-driven engine sometimes operates in place of men and water-buffalo. One of the best descriptions of the *saqia* is that given by H. E. Hurst in his book *The Nile*.



The Archimedean screw is used in the Delta to bring water to the fields

"The *saqia*," he writes, "has two forms, of which the earliest is a vertical wheel carrying a number of pots on its rim which dip into the water as the wheel turns and empty themselves into a trough leading to a field channel as the pots reach the top of the wheel. The wheel has another parallel wheel on its axis, which carries wooden cogs on its rim. Into these mesh cogs of a horizontal wheel, and this wheel is turned by a cow or buffalo or camel attached

to it by a shaft. The animal walks round and round the axis of the wheel turning it as it goes . . .

"The area which can be watered by a *sagia* depends of course on the depth of the water and varies from one to five acres per day with a single animal."

Today the Delta receives little water from the flood season. As we have said this is stored in huge catchments and is released only at certain periods throughout the year. The dams which control this water are opened each fortnight to enable the *fellahin* to keep their land watered at a constant rate.

New areas at the extremes of the Delta are being developed and many square miles of desert are yearly reclaimed into arable land.

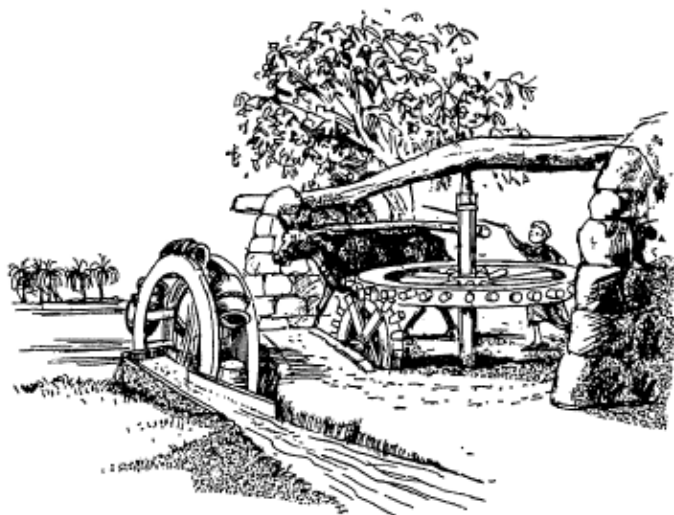
An experiment being tried south of Alexandria and off the road which leads to Cairo is known as Liberation Province or *Mudiriat Al Tahreer*. This will, it is hoped, reclaim for agricultural purposes more than a million acres of desert land.

In the Delta region, apart from at Alexandria, Rosetta, and one or two places between the sea and Cairo, very few ancient monuments are to be found. The reason for this being the constant flooding of the Nile over the centuries.

It is worth considering what must lie under the irrigated fields. Vast temple areas such as are to be found in Upper Egypt? If so, they are buried many, many feet below the levels of the silt-covered land. Twenty years ago, the Delta was approximately 600 miles long by, in parts, very few yards wide.

In 1962 the Delta is expanding both east and west and will go on expanding as more modern methods of lifting and controlling the waters of the Nile are introduced.

Man today is using modern techniques. These, together with recorded facts and data, help to



A *saqiya*, the most common of all methods of irrigation anticipate the pattern of Egyptian economy. Her ever-increasing population and the need to be self-providing, thus avoiding the importation of food, is being very closely watched.

The Nile, after many thousands of years, remains the life-blood of Egypt.

The number of people on rafts and boats using

the river surprised Bruce. Some controlled a raft made from two bundles of straw which they sat astride using their legs as oars. They also carried a double paddle and can remain, Bruce records, in the water for about three hours, but have to leave once the bundle is saturated and thereby becoming heavier than water!

These are similar to *fascines* made from brush-wood, generally about eighteen feet in length, which were used at one time for military purposes when road-making, bridge-building or filling in ditches and trenches.

Bruce was very intrigued by the methods the natives used when fishing. Many varieties of quite edible fish are to be found in the river and some are considered good eating. The Nile perch is very common, but as the river outside Rosetta is partly sea-water and partly fresh water, few of these are to be found until one is near Cairo. He watched "the natives on the shore holding long sticks in their hands, to which they had attached vast nets and these they plunged deep in the water and dragged for a short way before swinging the stick up, throwing their sometimes very heavy catch to the land".

Various small villages were passed, some of which Bruce described in great detail.

He mentioned Disug "a considerable village which contains a mosque which is revered throughout all the East. Twice a year two-hundred-thousand souls are led hither by their devotion." In 1768 two

hundred thousand people was a large proportion of the Delta population.

The population of Egypt at the end of 1961 is expected to be in excess of 24,500,000, of whom more than three millions live in Cairo, making this the largest-populated city in the continent of Africa.

At this point of his journey, with Cairo less than ten miles away, Bruce passed what was to become



Some controlled a raft made from two bundles of straw . . .

one of the most important sites in the development of Egypt's economy.

Here, where the Nile divides into two branches, the eastern branch leading to Damietta and the western branch to Rosetta, a barrage was built in 1861—the famous Mohammed Ali Barrage. The Mohammed Ali Barrage was built nearly one hundred years after Bruce had passed its site, its construction proving an extremely difficult project for the engineers.

The work at the eastern end of the barrage, that is, near to the branch of the Nile which flows to Damietta, was not so difficult as this stream carries much less volume of water; but at the western end, owing to the immense flow to Rosetta, the foundations were never properly laid.

Constant attention was required until 1890 when the structure was finally considered safe and the entire barrage lifted in height to carry some fourteen feet of water.

However, as the years went by, and with the increase of irrigation in the Delta region, this was not high enough. Then it was found that the foundations of the Mohammed Ali Barrage would stand no more weight.

A fresh barrage was started. And with few troubles this was completed in 1939.

Although a barrage serves an entirely different purpose to a dam it is nonetheless a *type* of dam. It is built to raise the level of a river upstream, yet its construction must allow a sufficient flow of water to fill irrigation canals above the barrage. It must also be constructed to allow a river in flood to flow freely, thus preventing damage to land upstream; and to release to the fields water at occasional intervals.

The Mohammed Ali Barrage has played an important part in the life of Egypt during the past hundred years—especially in the Delta region, and has clearly shown the value of making full use of the waters of the Nile.

Other barrages built along the Nile's course include those at Esna, Nag Hammadi and Assiut.

But, as we have said, a barrage is not a dam. The primary function of a dam is to store water in times of plenty and to allow the release of sufficient quantities of water when there are shortages. No longer do the flood waters of the Nile sweep through Egypt and the Delta and take the top soil into the sea. Irrigation is made safe, yet satisfactory irrigation is delayed and frustrated by the out-of-date and primitive methods still being used for lifting and pumping water through the canals and channels.

In addition to storing water a dam improves the river from the navigational point of view and assists in general drainage of the land.

Egypt, since the mid-nineteenth century, has made enormous strides in controlling the Nile. In 1961 she started building the Aswan High Dam—probably the biggest building and engineering undertaking ever attempted to harness water, both from the size of the catchment area and from the hydro-electric power this dam will create.

Bruce, unaware of what future developments would be, moved on; travelling slowly the last few miles before reaching Cairo. Here he planned to stay for a few days, renewing his letters of introduction to the sheiks and village chieftains in Middle and Upper Egypt, searching for a boat suitable to carry him to his goal and, almost the hardest job of all, finding servants who would be willing to serve as crew.

4

At Cairo

THE disillusionment James Bruce had felt when he arrived in Alexandria turned to disgust as he entered Cairo. His journal recounts how he found the city and his description of the people and government of the day “. . . a more brutal, unjust, tyrannical, oppressive, avaricious set there is not on earth”, shows an unusual outcry from the former British Consul at Algiers.

Perhaps it was that, having arrived at Cairo, Bruce was disappointed; for the approach along the river had given him a fine view of the pyramids to the south-west. To the south-east, on the other bank of the Nile, he saw the Moqattam range of hills, always a sight to evoke mystery and the thrill of anticipation.

Undoubtedly one of the most stirring sights in the world is the first glimpse of the Pyramids at Giza.

Cairo was a goal. But was to be only a necessary and temporary stop. That Bruce was to spend some weeks in the city before completing all preparations for his journey up the Nile would possibly have made

him somewhat bitter when he was later writing his observations.

However, much happened that makes for an opportunity to discuss the capital of Egypt, both at the time of Bruce and at the present day.

In 1761, we find the city was "... shut in at one end by large gates, where there is a guard, and these are kept constantly closed in the time of the plague". Today there is no trace of the gates Bruce mentions, though the old walls of Cairo are well preserved in the Citadel area and other parts of the old city.

It is likely, once Bruce realized he would have to stay in Cairo longer than he hoped, that he made one of his first excursions to the Citadel.

The Citadel was built shortly after A.D. 1176 by Saladin, a Sultan of Egypt, who was born at Tekrit on the River Tigris.

In 1171, on the death of the ruling Caliph, Saladin proclaimed himself sovereign of Egypt. His reign was constantly interrupted by fierce battles and wars. It was his actions and successes against the Christians at Tiberias that led to the Third Crusade.

Standing high on a rocky ridge to the south-east of modern Cairo, the Citadel is said to have been built with stones taken from the pyramids across the river. Today, though the exquisite, tapering minarets remain, the Citadel is in the centre of the "old city" in which stands the Mosque of Mohammed Ali—the ruler responsible for the massacre of the Mamelukes early in the nineteenth century.

It was near to this mosque that a famous gate, the

Bab el Azab, stood guard at one of the two entrances to the Citadel. Mohammed Ali in his treachery had invited the Mamelukes to a banquet. They were to come through the Bab el Azab. Once through, the gate was closed and they were fired on from all sides. Almost all were slain in a most brutal fashion. Thus ended the power which had been with the Mamelukes for many hundreds of years.

East of the Citadel lie the Moqattam hills, from which much of the rock used in the building of Cairo during the past two hundred years has been hewn.

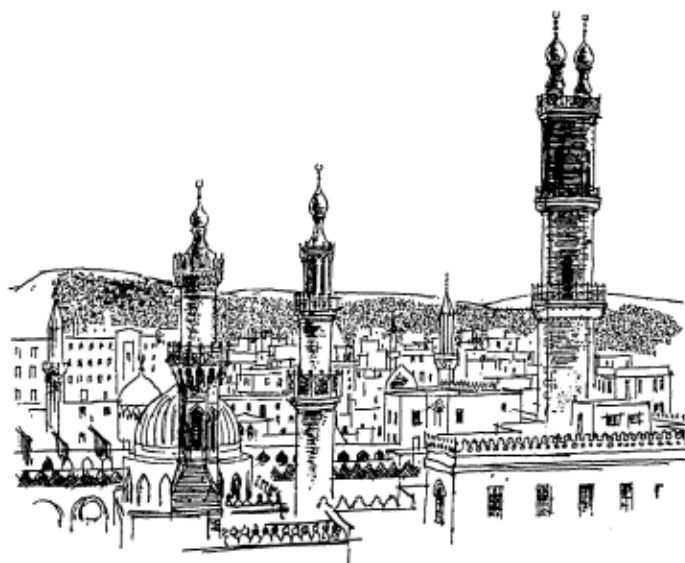
Bruce mentioned the innumerable minarets which encircled the Moqattam and which rose from the gardens along the eastern banks of the Nile.

Cairo was then a group of villages bearing names still used to describe districts, Bulac, Roda, Old Cairo, Giza, Zamalek and Heliopolis.

The government of the country was made up of twenty-four Beys, seven of whom lived in the Cairo area. James Bruce was not happy about this arrangement and wrote: "The Beys are vested with the sovereign power of the country . . . at a time of peace they are content to be equals and no ambitious one attempts to govern the whole. But in times of war one leader emerges to control all the other Beys. As with the Mamelukes, in order to be a Bey, the person must have been a slave and have been bought for money at a market."

To the north of the Citadel, and still within the part of Cairo known as the "Old City", we find the

Khan el-Khalili. Here is a maze of narrow winding streets built for pedestrians only; for little of the modern world is admitted. The streets are cool and shady and lit by occasional shafts of sunlight. The fame of the Khan el-Khalili, sometimes referred to



Innumerable minarets encircled the Moqattam

as the *Muski*, has spread throughout the world as the centre of Arab craftsmanship and the heart of Islamic culture. Many of the great mosques of the thirteenth and fourteenth centuries remain.

In the Khan, not only do windows display beautifully made inlaid copper and silver work and the

finest of rugs, carpets, and porcelain in a kaleidoscope of colour and design, but wherever the traveller moves will be found some Arab craftsman gently hammering and shaping his delicate work.

It is small wonder that visitors ask why the *Muski*,



The *Muski*, built amidst ancient archways and streets

built amidst ancient archways and streets, came to be in such a remote corner of Cairo. The answer is in the work of the Emir Jarkas el-Khalili who, in the fourteenth century, built a market on the site once full of the tombs of the Caliphs—in fact in the

“Forbidden City”, the centre of the ancient city which bore the name of Cairo.

One street in the Khan el-Khalili leads to the oldest religious university in the world—the Al-Azhar, about which we shall read more later.



Modern Cairo has developed near to the banks of the Nile and is cut off from the older parts of the city by overcrowded streets and narrow alleyways.

During the past fifteen years many modern hotels and skyscraper blocks of flats have sprung up. Most

of the cinemas in the centre of Cairo are air-conditioned and extremely comfortable. The principal function of a recently built, very ornate, tower on Gezira Island is to give to visitors a vantage point where they can view the entire panorama of the city and beyond.

Lifts carry the visitor to the top on which is a restaurant designed to rotate so slowly that, whilst sitting at a table, the diner is able to see the city and its sprawling suburbs radiating from below. The desert is to the east and west, and the pyramids seem close enough to touch. The Delta spreads itself to the north and the Nile Valley to the south.

Gezira also contains a magnificent sporting club and arena, together with a well-designed race-course. The Egyptian people are avid followers of association football; more than one of the better teams play at grounds on the island. Here are housed many foreign diplomats and higher-paid government officials. The Egyptian television centre and studios are also at Gezira, but the film-making studios are on the western bank of the Nile, beyond the Cairo University.

On Roda, a little further south, can be found two large hospitals and rehabilitation centres. Houseboats belonging to foreign residents are moored along its banks. At the extreme southern tip is the nilometer about which we have already read. Across the river, over one of the four bridges which span the Nile at Cairo, we reach the Zoo and the buildings of Cairo University.

Egypt possesses four universities; the Cairo University, the Ein Shams University, the Alexandria University and the Assiut University. The latest, the University of Assiut did not open until 1957, in contrast to the Al-Azhar, the seat of Islamic culture and learning, founded in A.D. 970, at which the student population in 1961 approximates forty-four thousand.

In the other universities the total student population exceeds seventy thousand. This large number is quite incredible when we realize that in 1947 more than eighty per cent of the total population of Egypt were illiterate. The campaign by the Government against illiteracy has commenced and it is now compulsory that all children above the age of six attend some form of school.

Preparatory schools, first started in 1954, are divided into five divisions. The first dealing entirely with preparing boys and girls for general secondary schools. Second, preparing boys and girls for agricultural schools. Third, for industrial schools. Fourth, for commercial schools. Fifth, girls only for technical schools.

The transport arrangements of the city have been designed to make all parts of Cairo accessible for tourists or those connected in any way with business and commercial life.

From the main railway stations, trains take one to the most northern borders and beyond; to the temple areas and remains of Luxor, Karnak, Thebes; and south into the Sudan. To the ports of Alexandria,

Port Said and Suez. To the airport, which is on the north-western outskirts, some fifteen miles from the city centre. To the Delta region and to the remoter parts of the Sinai Peninsula. To the Western Desert, beyond El Alamein, the scene of the famous battle of the Second World War, and to the Eastern Desert and smaller ports on the Red Sea.

Buses, which recently have displaced trams, also provide a service to places of historic interest in and around the city. A *Metro*, or diesel train, runs north to Heliopolis (City of the Sun), once a town of Moorish architecture, now a near-suburb of Cairo.

It was at Heliopolis that the two obelisks known as Cleopatra's Needles formerly stood. Rameses II re-erected them at Alexandria in the year 1212 B.C., where they remained until one was brought to England in 1878. This was placed on the Thames Embankment in London. The other was presented to the United States and in 1881 was erected in Central Park, New York.

Near the city terminus of the *Metro* is found the Egyptian Museum with its unique collection of ancient treasure including those from the tomb of Tut-Ankh-Amen.

It is most fortunate for the world that the Ancient Egyptians had the habit of engraving on stone whatever they wished to hand down to posterity, and, fortunate too, that the Rosetta Stone was discovered and deciphered.

Ancient Egyptians also wrote on papyrus with reed pens. The sands, which for so many centuries have

covered the tombs and temples, have preserved many precious documents almost intact to the present day. These put on record the history of their time—a history of most absorbing interest.

Egypt is justly proud of her great museum, built to house the collected exhibits which represent a period of history dating back five thousand years. Excavations in all parts of the country are being carried out under the guidance and auspices of the Egyptian Ministry of Antiquities. Each decade seems to bring to light new and exciting discoveries which are helping to complete in our minds the pattern of the life lived by a most advanced civilization so many centuries ago.

From the Museum it is possible to take a bus to the pyramids at Giza on the edge of the desert, where the terminus is practically beneath the great Pyramid of Cheops.

Bruce mentioned that he often had a fine view of the pyramids at Giza, but he wrote very little about his actual visits to them. However, before we rejoin him in his journey south, these incredible and always mystifying tombs must be examined.

5

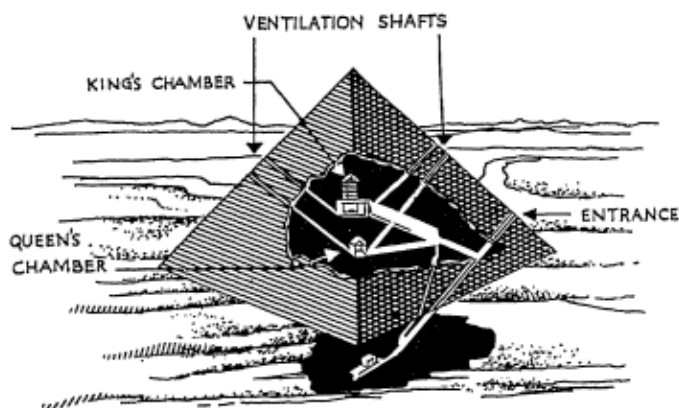
The Pyramids are left behind

THE pyramids at Giza, and all other pyramids to be found on the western bank of the Nile, are constructed of stone and were built as burial places of the Pharaohs.

Their design has been the subject of much theory and conjecture, and their shape has always been the source of great speculation by those who, for thousands of years, have been trying to work out the strange angles and method of construction. Some people have claimed that in the measurements and uniqueness can be found prophecies of future events. Many writers and Egyptologists believe that the design is of special religious significance, for nowhere in the world has been found any tomb or monument bearing similar form.

The largest of the three pyramids to be found at Giza is that attributed to Cheops, King of Memphis, who ruled nearly five thousand years ago. In the construction of his pyramid it is known that he employed many thousands of men, and this colossal monument—his own burial chamber—took ten years before it was completed.

Today the pyramid stands 451 feet. Originally, with its peak, it was 481 feet. The base of this pyramid on each of its four sides, is of practically identical dimensions—755 feet—the total *area* covered being a little more than thirteen acres.



The interior of the Cheops Pyramid

It is estimated that 2,300,000 separate blocks of stone were used in its building, each weighing an average of two to two-and-a-half tons.

Once these blocks had been placed in position the entire pyramid was covered with limestone and completed with a layer of granite which came from Aswan, more than six hundred miles to the south. Most of the limestone and all of the granite has now been removed.

As pyramids were burial places, each Pharaoh

following Cheops designed, planned, and saw built, his own tomb.

It is possible to visit the interior of the Cheops pyramid, which is as the illustration on the previous page.

On entering we find a gradual slope which, in the semi-darkness, seems to extend for hundreds of yards. Eventually this downward slope stops and the passage inclines steadily until we reach a division. By taking the more level passage the Queen's Chamber, now an empty vault, is reached. Retracing our steps to the division of the passage, and taking the other route, we follow a pronounced upward slope to the centre of the pyramid and stand in the Grand Gallery or King's Chamber.

It is a large area left completely bare except for the sarcophagus, which is empty, having been robbed many hundreds of years ago.

Standing in the King's Chamber is always a somewhat frightening experience, especially when one recalls the tremendous tonnage bearing down from above. It is also very disquieting to stand still, remembering in the silence the age of this, the world's largest single monument.

Outside once again, and a short distance from the great pyramid, is found a sphinx which has figured in both Greek and Egyptian mythology.

In Egypt it is represented as a lion with a human head. Many smaller versions of the Sphinx are found in Upper Egypt. One famous avenue, the "Avenue of Sphinxes" connects Karnak with Luxor. These

extend for more than a mile and run parallel to the Nile, although many are still partially hidden in the sands.

At Giza, the Great Sphinx is 189 feet long and was probably built during the fourth dynasty (2720-2560 B.C.).

Denon in 1798 spent a long time in Giza and wrote of the Sphinx that "its proportions are colossal. The expression of the head is soft, gracious and tranquil; the character is African, but the mouth, the lips of which are thick, has an elegance which is truly admirable . . . When a piece of sculpture like this was produced the art must have been at a high degree of perfection. On the whole astonishment has been expressed by the dimensions of the Sphinx, but the perfection of its making should never be forgotten . . ."

Much excavating is today being carried out between the Sphinx and the pyramids. In 1955, Mr. Kamal el Malakh, a well-known Egyptologist, found the first solar (sun) boat, very few yards from the pyramid of Cheops.

These boats were, it is believed, buried at the same time as the Pharaohs to be the means of their transport in the journey of life after death.

So well concealed was the pit that many were sceptical when the solar boat was exposed. It was as though it had recently been made. The pit, into which the boat fitted exactly, measured nearly 100 feet long and about 8 feet broad. To the great excitement of Mr. el Malakh there remained in the boat a mast, oars and rudder!

Now that the solar boat has been exposed it is feared that weather will rapidly deteriorate the timbers. Modern techniques of preserving such relics have been applied, but it is doubtful if soon enough to preserve the vessel intact.

It is hoped in time to take the solar boat from its resting place and house it in a specially-built museum near to the scene of its discovery.

Although we have made mention here of only one pyramid it must be remembered that there are eighty on the western banks of the Nile, many of which are today in a well-preserved condition.

But once again let us return to Cairo and rejoin James Bruce.

For some weeks he had searched for a vessel and crew and provide everything necessary for his leaving Cairo.

He finally secured a boat which he hired for the journey to Upper Egypt.

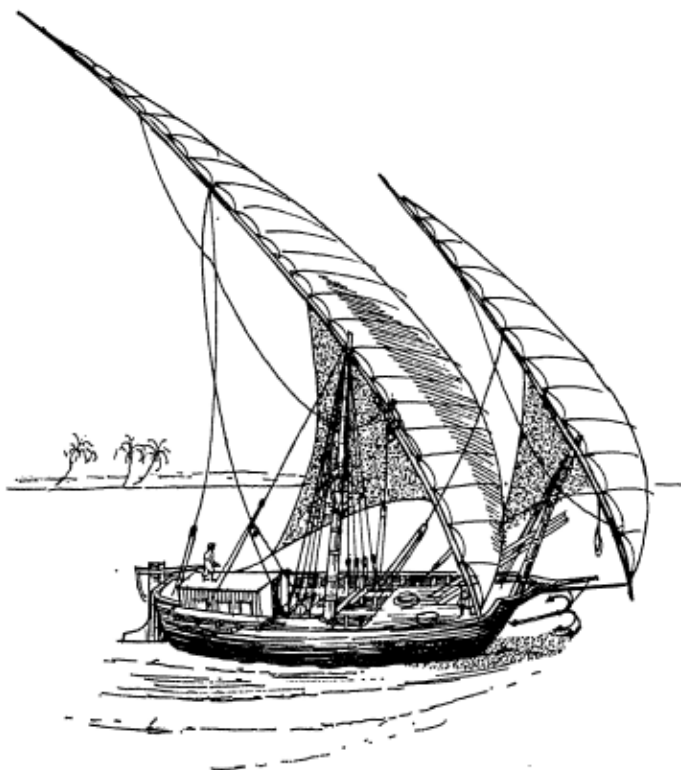
This vessel was called a *canja*.

Bruce, in his journals, wrote: "It is safe and most commodious and is about a hundred feet from stern to stem with two masts and two lateen sails. The main sailyard being about a hundred and twenty feet in length.

"The *canja* is thirty feet in the beam and about ninety feet in the keel. The keel is not straight but the curve is not noticeable to the eye.

"It has a good effect in sailing that whereas the bed of the Nile, when the water grows low, is full of sand

banks under the water. The keel, under the stem where the curve is greatest, first strikes upon these banks and is fast, but the rest of the ship is afloat



Bruce finally secured a boat which he hired for the journey
to Upper Egypt

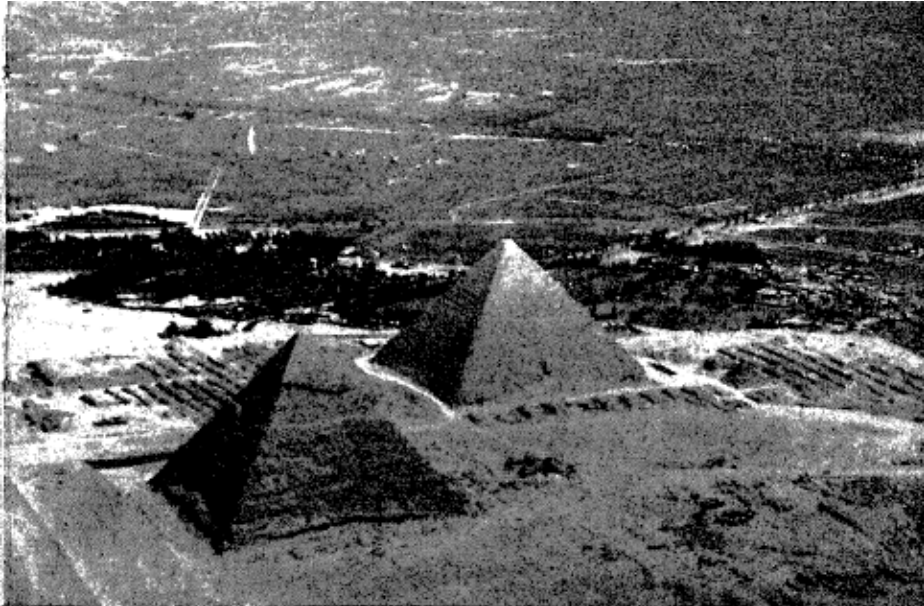
so that, by the help of oars and the assistance of the
stream, and the furling of sails, you can easily get off.

Whereas were the keel straight and the vessel going with the pressure of an immense main sail, you would be so fast upon the bank as to lie there a wreck forever.

"The cabin has a very decent and agreeable dining-room about twenty feet square and with windows that have close and lattice shutters so that you may open them all in the daytime and enjoy the freshness of the air, but great care must be taken to keep these shut at night. A certain kind of robber peculiar to the Nile is constantly on the watch to rob boats in which they suppose the crew are off their guard. They generally approach the boat when it is calm either swimming under the water or, when it is dark, upon [inflated] goatskins.

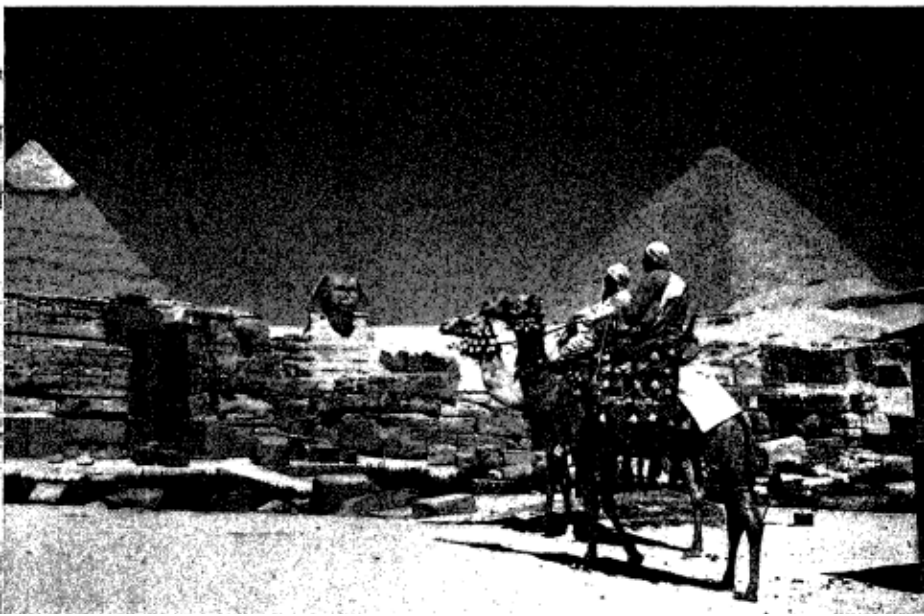
"Behind the dining-room is a bedchamber, ten feet long and a place for putting books and guns. With the latter we were plentifully supplied both with those of a useful kind and those such as blunderbuses meant to strike terror. We had a great abundance of ammunition likewise both for our defence and sport."

It was on December 12th, 1768, when Bruce embarked on the *canja* opposite to the nilometer at Roda. He recorded that his hiring fee for the vessel which was to take him to Dendera was "twenty-seven patakas", or about seven pounds.



(Above) An aerial view of the pyramids at Giza. The road to Cairo is seen on the right of the photograph

(Below) A view of the pyramids showing the Sphinx





(Above) Mechanical irrigation in use at the Fayoum Oasis

(Below) A different method of bringing water to the reclaimed land





(Above) A *sagia*. The water being lifted is seen pouring from the earthenware pots

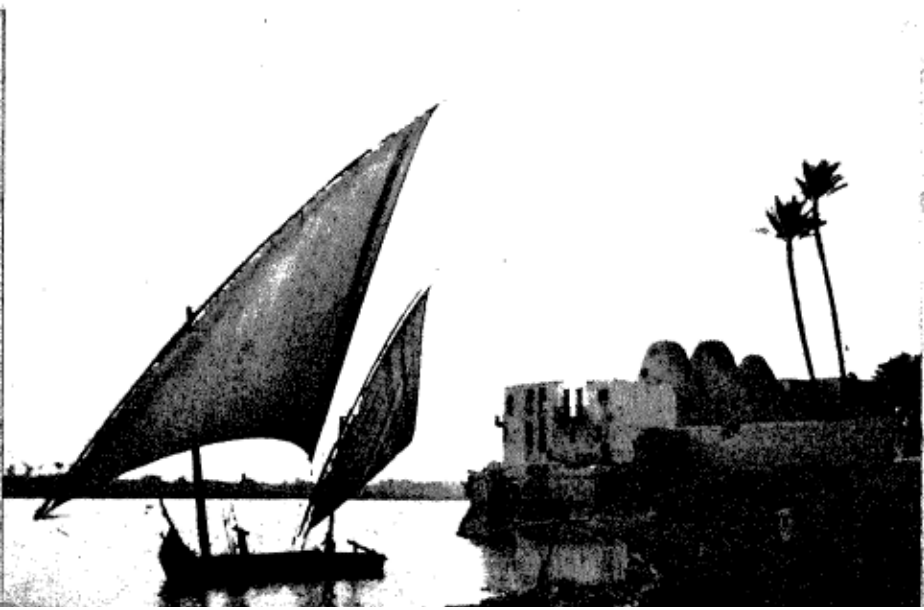
(Below) The *shadoof* is used to bring water from the Nile to the smaller channels—Photo Stanley Haines





(Above) On a caravan route. A monastery found at Wadi Natrûn in the Western Desert Region

(Below) Part of a typical village built on the banks of the Nile—*Photo Stanley Haines*



6

Further towards a Goal

THE *canja* drifted slowly into the open waters of the Nile with James Bruce standing amidships admiring the vessel which was to carry him southwards.

This was the true beginning of his journey. This was the beginning of the end . . .

Suddenly, however, the breeze dropped. Bruce was in the position of so many sailors during the centuries before and since—becalmed, and yet only a few yards from land. Here was an unexpected and, it appeared, an untimely twist of luck, solved quickly when two members of his crew offered to swim ashore with ropes to tow the *canja* round a bend in the river in the hope of finding more breeze.

The two Moors, we read, towed the vessel three miles before Bruce decided to tie up for the night. It was now five o'clock in the afternoon, almost an hour before sunset and darkness.

From his mooring, Bruce had a fresh and magnificent view of the pyramids at Giza, especially as the sun was slowly setting in the west. During the

next hour he watched the pyramids take on an entirely new beauty.

The setting sun was leaving its dying rays on the pyramids, the edges of which stood out in clear relief outlined with gold. At the summits appeared an even brighter yellow glow.

This strange effect brings to mind an old story which tells of why the pyramids had a religious significance to the Ancient Egyptians.

In ancient times, when the Egyptians worshipped the sun, a large white bird, long and slender (possibly a heron) came and alighted on a tree that stood in the courtyard of the temple at Heliopolis. The Egyptians there associated the idea of the Sun with the Heron and made of it a symbol of the Sun. Later, when the worship of the Sun developed under the Old Kingdom, the Pharaohs had an obelisk built in place of the tree on which the Heron had perched.

The top of the obelisk had the form of a pyramid, and later, kings had their tombs also built in this shape. Thus when the Sun shed its rays upon it, the reflected light from the Pyramid spread out white and gold so that the Pyramids of the Pharaohs seemed to have in themselves a source of light.

To Bruce the western sky was full of colour. "I saw reds and blues and purples and greens and gold and, yes, I believe, silver. In fact the very sky made a rainbow in an English summer appear dull!"

But in minutes the sun had set and with it came a sudden darkness. The pyramids could still be seen against the fading light. To the east the darkness

was complete: yet almost as quickly as the sun had set a new colour appeared. The sky became an intense blue, flecked with myriads of stars, bright enough by which to read.



A village on the banks of the Nile

This very sudden change from light to darkness is common to all countries of more southern latitudes. In Great Britain the process of twilight and semi-darkness lengthens the farther north we travel, until we find the Scandinavian countries have, at certain times of the year, no darkness whatever and are known as the "lands of the midnight sun". The same

effect is apparent in more southerly countries and towards the Antarctic Circle.

Bruce that night brought his journal up to date and retired, eagerly anticipating the morning and hoping for a fresh breeze.

In Egypt, as we have already mentioned, the morning is heralded by a damp mist which does not clear until the sun has warmed the earth's surface. Such mist cannot be compared with those of Scotland and parts of England and Wales. Here, although the temperature falls during the night, it is not as drastic as the extreme drop in temperature from a normal day average of about seventy degrees Fahrenheit, which is common in Egypt.

Although the desert sands cool very quickly a large amount of moisture lies not many inches below the surface. Once the sun has set the temperature drops, and goes on falling, until the sun rises next day, inducing mist by drawing up moisture from the land, the Nile, and the irrigated parts of the Delta.

James Bruce waited until six o'clock in the morning before casting off. He was "favoured by a breeze which filled the sails and allowed the *canja* to move south at a speed of less than one knot".

For the next few days, Bruce spent much of his time observing the villages on the banks of the Nile and watching the inhabitants going about their daily occupations.

Occasionally he stopped to make local explorations, but this he did with great care as he had been warned of the dangers when landing in certain of the

villages, the inhabitants of which were likely to be most hostile.

Life in the villages of Egypt has, during the past hundred or so years, changed very little. In fact, today, when visiting some of the remoter villages in Middle and Upper Egypt it is as though one has been brought into a scene depicted by many nineteenth-century engravers and painters.

Unless the village is near an industrial centre, or close to those places visited by tourists, the people live in a manner far removed from our appreciation of twentieth-century habits.

Since 1952 the government of Egypt has attempted to introduce many changes which would affect the life of the *fella*, including dispensaries and hospitals, schools, social services and frequent visits from the various Ministries to give advice on local problems.

Probably the greatest emphasis has been put on hygiene—something few Egyptians, whether living in towns or not, seem to understand. Vigorous campaigns to enlighten the villages have been carried out. But still ignorance prevails.

In Cairo and the larger towns, and also in many of the villages, pumped water is accepted. But in the remoter villages all life centres around the pond. These pools are the *fella*'s greatest pride and joy, and among the biggest carriers of disease in the country. From the pool the *fellahin* draw water for drinking and washing; in it they bathe and wash their clothes. Cattle are brought to be watered

and washed. Yet these stagnant pools are one thing the *fellahin* refuse to give up.

When approaching a village, either through fields of cotton or maize or wheat, one is always greeted by dozens of children who, talking excitedly between themselves, form into a noisy group and follow the progress made towards the outskirts of their homes. Most of the young children are naked and the others are clad as their parents—the boys in *galibiehs* and the girls in black gowns.

Though school for all children is said to be compulsory many of the villages are not large enough to warrant a building or teachers, even if the latter were available. One particular village, El Quseir, which has a population of school-age children in excess of 14,000, has only five small classrooms in a school which can take 250 children. But in spite of no formal education the children are quickly taught ways of helping their parents in the fields and are especially adept at riding the water-buffalo around the *saqia*.

The dress of the adults, whether in town or smallest village, is the *galibieh*, a long, shirt-like garment made from plain or striped cotton which hangs from the shoulders. In this attire the Egyptian is seen in the fields, at the *shaduf*, and in the large commercial buildings and offices of the big towns.

Women, however, dress mostly in black gowns, with a form of hood of black cotton material. When veils are worn today they are seen only in remote and isolated places.

The homes of the *fellahin* are perhaps the saddest

sight of all. The walls are made of mud or maize stalks, and few homes are divided into rooms. None of these so-called houses have doors. The lighting inside, once the sun has set, is confined to simple oil lamps which burn slowly giving a dull, smoky, and flickering light. Furnishings in the home, as we know them, are non-existent—a bench or two and some rugs thrown over the earth floor seem to suffice.

Little change in diet is known, and food at all main meals consists of *foule*, a kind of porridge made from beans which is eaten with small round cakes of hard bread baked from maize.

This description of village life may make it appear that the Egyptian lives a sad, almost aimless life. Yet this is not true. He is happy enough to live as his forebears did, and does not welcome change. Ultimately, it is hoped, the villagers may have the comforts now given to some of their town-living kinsfolk. It may not be in the too distant future that unlimited supplies of clean drinking water are available throughout the country; certainly there is hope that the hydro-electric schemes will develop the outlying areas and bring comforts of twentieth-century living to the villages.

About twelve miles along the Nile from Roda, Bruce observed the most ancient of all pyramids, built by Zozer of the third dynasty (1780-1720 B.C.). Zozer had built this pyramid near to the first capital of Ancient Egypt—Memphis.

Of Memphis itself little remains, though colossal

statues of Rameses II lie prone on the site believed to be of the city.

The Zozer pyramid is known as the Sakara Pyramid, or the "Step Pyramid".

Long before Bruce had arrived on the Nile this pyramid had been opened and plundered. Recently a guard of Egyptian police have been posted at the entrance, outside a barbed-wire entanglement. No visitors are allowed to visit the interior—the excuse being that there are no internal lighting facilities!

Denon recorded his impressions of Sakara in the following words—"The nearest [for there are a number of smaller pyramids here] was composed of steps or graduated platforms making so many terraces."

In this area, the multitude of pyramids and the "plain of mummies" all prove that the territory of Sakara was the necropolis to the south of Memphis, which terminated at the "City of the Dead".

During one afternoon, Bruce landed at a village built in a plantation of date palms. This was essentially a matter of luck for the trees had hidden any signs of habitation from the river. The village was rather untidy in appearance and was not laid out in the usual Egyptian pattern, and, although there were no signs of ancient ruins and certainly no stones bearing hieroglyphics, the natives adopted an attitude which was almost casual. This was so un-typical of the villagers he had met in the Delta region that it made Bruce wonder what type of man he would find as he journeyed farther south.

Next day the wind was fair and fresh and Bruce, in great spirits, hoisted the main and fore sails and moved quite quickly against the flow of the Nile.

At one point he watched an interesting spectacle. Three men were fishing in a novel way. They were poised on a raft of palm branches supported on a float of clay jars which were made fast together.

The form of this raft was that of an isosceles triangle or the *side of a pyramid*.

Two men, each holding a casting net, stood at the front corners and threw their net into the stream together. The third stood on the apex of the triangle and threw his net the moment the other two drew their net out of the water. This was repeated in perfect time and with incredible regularity. Thinking that Bruce's interest in their activity was a sign that he wanted to buy fish, they came alongside and Bruce records they "latched this miserable raft to a rope on our stern.

"In recompense for their trouble, we gave them some large pieces of tobacco which transported them so much that they brought us a basket of several different kinds of fish. They said their fishing was merely accidental and their trade was selling the earthen jars on which they floated which they got from a village on the western bank. After having taken the raft to Cairo, they untie the jars, sell them at market and carry home the money. This seems a very poor form of trade but sufficient, it is said, from the carriage of crude materials, moulding, making and sending the jars to market in Cairo and different

places in the Delta, to afford occupation to two thousand men."

Since his sights were only on reaching the source of the Nile, Bruce seldom admits in his journals that he visited many of the known areas which lie a few miles from the banks. One such place, perhaps, was the Fayoum. Certainly Bruce must have known of its existence and of its great charm and beauty.

The Fayoum, the largest oasis in Egypt, has the advantage of a great lake, Qarun, and numerous fresh water springs. Here, in the cradle of Islam (for the history of the Fayoum goes back to the most ancient times), we find records that the secrets of making pottery and the knowledge of both sowing and reaping grain were known centuries before the rest of the world.

Its records also show the important part Fayoum has played in the history of Egypt and how much it was valued by earlier dynasties. But the great prosperity with which it has since been associated dates from about 2000 B.C.

The ancient name of this province was Ta-she, the "land of the lake", so called from the lake which fills a deep, natural hollow. The filling of the lake is due entirely to the infiltration from the Nile. It was here that Amohemhat III kept careful recordings of the height of the Nile and of its effect on the waters of the lake. A great irrigation scheme was carried out by the building of a main canal from the Nile to the oasis, called the Bahr Yussef (Joseph's River).

The Fayoum Oasis in the mid-twentieth century

attracts those who love calm and peace. Its trees bear the most varied form of fruits, whilst Lake Qarun is rich in fish of all kinds and in the right time of the year, the hunting of duck, which have migrated from northern hemispheres, is a popular sport. The lake has also been well adapted for water-ski-ing, a far cry from its earlier splendours!

At the junction of the Nile and the Bahr Yussef, is found the village of El Wasta, the centre of the sugar-cane industry.

The crop of sugar cane has always been of great importance to Egypt and is grown in the upper region as far south as Aswan. Between El Wasta and Assiut lies El Minya, still part of this great sugar-cane area and a few miles north of Tell el-Amarna, a place which played a vital part in the Egypt of years ago.

During the reign of Amenhotep IV, in the eighteenth dynasty, the capital of Egypt was at Thebes. Here Amenhotep IV reigned with his Queen, the famous and beautiful Nefertiti. As the king's name shows, he worshipped the god Amen. In the sixth year of his reign a great conversion took place. He shook off the worship of Amen and took on Aten, the worship of the Sun.

Taking the name of Akenaten he established a new capital at Tell el-Amarna. This he did for two reasons. First, to stop the flow of riches from Syria, the Lebanon, Palestine and other countries of the Eastern Mediterranean which were finding their way down the Nile to Thebes and the Temple of

Amen, and second, although not twenty years of age, Akenaten wished to revive the still older worship evolved out of Aten of Heliopolis.

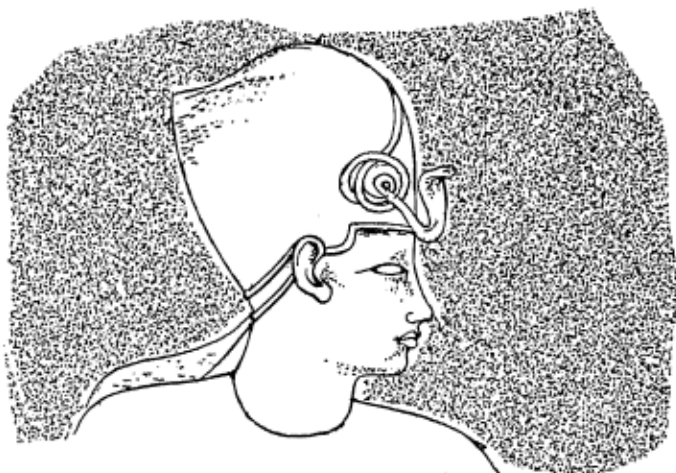
The religious changes that the king made were wide indeed. The devotion to Amen was erased throughout the country. However, eight years after the death of Akenaten in 1365 B.C., a new ruler brought back the worship of Amen. He was Tut-Ankh-Amen.

The story of the discovery of his tomb, almost intact after almost four thousand years, has many times been told. Credit for the excavation and discovery goes to Mr. Howard Carter and Lord Carnarvon. Howard Carter discovered the tomb in the "Valley of the Kings" at Karnak on November 6th, 1922.

But Bruce appears to have been unaware of the greatness of Tell el-Amarna as he slowly journeyed southward through the sugar-cane plantations. More than 150,000 acres are, in 1961, under cultivation. This allows for self-sufficiency in a country where approximately thirty-five pounds of sugar are consumed per head each year.

The land which was irrigated along this stretch of the Nile was extremely fertile; the people being better clothed and fed than their countrymen to the north. Today cotton occupies a considerable area of this land, and is the country's principal crop, representing also a large part of her export trade. The quality of Egyptian cotton is world-renowned, and is sought by markets throughout the world.

Frequently Bruce watched the caravans comprising several hundred camels making their slow way parallel to the river. One such caravan, he recorded, had come from Sinai bringing charcoal, gum and almonds.



Amenhotep IV as a young man

At times the currents of the Nile were very strong and the *canja* made little headway even with all the sails unfurled and a fresh breeze blowing. Bruce also continually found the waters in this part of the Nile very shallow and frequently the hull scraped on the rocky bed of the Nile.

Although the inhabitants were of a happier disposition, a close watch was essential during the night, as bands of robbers came down from the Eastern

Desert and were constantly reported as following the slow movement of the *canja*.

Bruce was hiding his fears when he wrote: "The Nile here is very peaceful and narrow, the land on either side extends for only a few yards before it appears it is rising into the brown and grey rocks of the mountains."

On December 24th, less than twelve days after leaving Cairo, Bruce records "we arrived at Girgei [Djirjeh], the largest town we had seen since leaving Cairo. It is here the Nile makes a kind of loop. It is very broad and the current strong."

The ruins found were of little interest and included a number of temples with columns covered with hieroglyphics. "The old story over again," writes Bruce with little enthusiasm. "The hawk and the serpent, the man sitting with the dog's head, with the perch or measuring-rod in one hand, and the hemisphere, and globes with wings, and leaves of the banana tree, in the other.

"There was also at this point a convent of Franciscan monks who are protected by the local ruling Arab, Prince Haman."

The next morning, after anchoring for the night at el Balyana, the *canja* arrived at Dendera. Bruce here saw his first crocodile, "and afterwards, hundreds lying on every island like large flocks of cattle".

At Dendera Bruce was to seek out two headman to whom he was carrying letters of introduction and to meet the local ruler, Hamam, who controlled the

large and cultivated plain of Furshout, in which Dendera stood.

Bruce decided to stay here for a few days; but to do nothing during the day he arrived. We must not forget it was Christmas Day . . .



Amenhotep IV after he had taken the name Akenaten,
with his Queen, Nefertiti

Ancient Temples of Upper Egypt

THE township of Dendera was, and still is, a most important centre in this part of Egypt where the Nile takes a wide sweep to the east.

Standing on the edge of a small but fruitful plain, Bruce must have found this place quite prosperous. Agriculture, such as it was, was at an exceptionally high level. The crops were well forward and introduced many not previously seen by him.

Set in a narrow valley, the plain of Dendera is about four miles wide. The eastern and western extremes being lost in rocky mountain ranges.

Today a large part of the irrigated lands produce cotton and sugar. Bruce recorded his surprise in finding the wheat there "was thirteen inches high, even though the harvest is not until the end of March".

Denon mentioned that here he came upon a caravan which had travelled from Timbuktu, the journey having taken more than one hundred and forty days.

On January 7th, 1769, during his preparations to

continue upstream to Aswan, Bruce realized the hiring of the *canja* in Cairo extended only to the neighbourhood of Dendera. Following a certain amount of bargaining he agreed with the local Sheik, Hassan (not to be confused with the ruler, Haman), to pay a further four pounds for the rest of the journey, and once again he cast-off. How Bruce paid a second party for use of the *canja* he had originally hired in Cairo is not known—neither do we know at which point he later dismissed his servants and crew.

A further day's sailing brought them to the harbour of the ancient city of Thebes, which Bruce reported, in a great understatement, that it "contains nothing but four prodigious temples, all of them in appearance more ancient but none so magnificent as those of Dendera".

So much excavation and shifting of soil has been carried out at Thebes during the past two hundred years that it is unlikely Bruce had any idea of the beauty and splendour which is today exposed for all to see.

The ruins at Thebes are perhaps the most magnificent in the world and include the site of the four villages of Karnak, Luxor, Medinet Habu and Gournou.

Thebes, founded under the first dynasty, consists of two main parts, separated by the Nile, and extending from the banks of the river to the base of the hills on either side. In fact, many of the vast temples have been cut into the hills and were not built by man.

Luxor and Karnak lie on the eastern bank and Medinet Habu and Gournou on the western bank. Thebes was the capital of all Egypt in 1600 B.C., and its circumference was estimated by Diodorus Siculus, the Greek historian, who lived at the time of Caesar Augustus, as approximately sixteen miles.

For several centuries Thebes was the residence of Egyptian kings whose tombs have now nearly all been discovered. Fame of its extent and grandeur made Homer describe it as "The city with a hundred gates, from each of which it could send out four hundred chariots fully armed for war".

Let us briefly examine the two villages on the western bank. About a half-mile north of Gournou is found a number of beautiful temples, all differing in form, but each one making its own contribution to a somewhat overpowering scene.

This is the "Valley of the Kings" which was the resting place of many of the great Pharaohs. Walls and ceilings of these tombs are covered with some of the best carvings to be seen in Egypt, and include many which give a true picture of the land and the methods by which the peoples lived, so many thousands of years ago. The carvings, together with early paintings depicting the land and the river, show how little the "geography" of Egypt has changed.

At Medinet Habu, which is south of Gournou, excavations in the cliffs have revealed in the "Tombs of the Nobles" a wealth of hieroglyphics, some of which are cut to a depth of six inches.

In a corner of one of the temples Bruce reported that he saw inscribed on a panel several musical instruments of a type of flute, each with what appeared to be a mouthpiece of reed. With them



The "Valley of the Kings", the resting place of many of the great Pharaohs

were jars, apparently of potters' ware, "having their mouths covered with parchment or skin, looking like drums, and were probably the instruments called *Taburs*, or the Biblical *Tabrets*, which are mentioned in Genesis and Isaiah".

Bruce made a number of sketches of these carvings

and then found impressions of harps *painted* on other panels.

Luxor, on the eastern bank, has by far the largest and most wonderful scenes of ruins in Egypt; much more extensive than those at Dendera. The modern town built near the ancient is classed as *the* winter resort of the country. This has now become a centre of tourist attraction. The temples have been written about so many times that reference for more detailed information should be made to the Bibliography on page 141, or to a Public Library.

The finest temple was that built by Amenhotep III (1414-1379 B.C.) whose tomb is in the "Valley of the Kings" on the western side of the Nile. Dr. Margaret Murray in her book *The Splendour that was Egypt* gives a brilliant description of this:

"Like all Egyptian temples it is orientated by the river, which here runs rather to the east of north, and it was built on the site of an early shrine, probably one of the many temples of the twelfth dynasty which the Hyksos destroyed.

"The plan of Amenhotep's building was the usual one; the outer court originally was enclosed with a wall and had a roofed colonnade at the sides; but the inner court was the glory of the temple with its forest of pillars. The vestibules and shrine have suffered much at the hands, first of the Romans, then of the Christians, who altered the buildings and covered the ancient sculptures with figures of saints. All the walls of the temple were once richly sculptured and painted.

"Though the temple was very splendid and glorious the early plan is clearly visible. Later kings, however, added to it but without altering the fundamental design.

"Haramheb built a processional colonnade with seven pillars on each side and enclosed with a wall and roofed. This led from Amenhotep's outer court into a much larger enclosure which appears to be later in date.

"The walls and pillars of this great court were once painted, and it was here that the festivals of the god, Amen, were celebrated."

Less than a mile and a half from Luxor lies Karnak, joined as we have read by the Avenue of Sphinxes. Here, practically every inch of ground is steeped in history, and whose former magnificence is realized as one wanders through the relics and remains of thousands of years past.

All this treasure of an ancient civilization was practically ignored by James Bruce who left the area on January 17th and sailed with a "fair wind and in great spirit". That evening he came to anchor on the eastern shore opposite to Esna where, today, the barrage holds the level of the waters of the Nile as far north as Assiut.

This barrage also contains some of the waters flowing through the Aswan Dam, thus preventing a certain amount of flooding at Thebes. Before the Esna Barrage was built the temples were, at times of inundation, under many feet of water. The remains

of a number of tombs and temples were destroyed and all lower parts of Thebes suffered severe damage.

Denon wrote of Esna: ". . . Esna is on the banks of the Nile and here may be seen some wrecks of its port or quay, which has often been restored, and which is in a deplorable state. There is also in the town the portico of a temple, which may be considered as the most perfect remain of ancient architecture: it is situated near the bazaar, in the great square, and would make the most incomparable ornament, if the inhabitants had any idea of its merit. Instead of this, they have hid it with frightful and ruinous buildings, and abandoned it to the meanest uses: the portico is in high preservation, and has great richness of sculpture; it is composed of eighteen columns with widened capitals.

"These columns appear to be excessively elegant, though their effect could be viewed only in the manner most disadvantageous to architecture; it would be necessary to remove the rubbish (fallen masonry) in order to ascertain if any part of the original base is still in existence.

"The hieroglyphics, in relief, with which it is covered are of very elaborate execution; among the more remarkable are a zodiac, and large figures of men with the heads of crocodiles. The capitals, though almost all different from each other, have a fine effect; and, what might be added as a proof that the Egyptians borrowed nothing from other nations, all the ornaments of which these capitals are composed are taken from productions of the country,

such as the lotus, the palm, the vine and the reed."

Twelve miles south of Esna is Edfu, the temple at which is dedicated to the god, Horus, the son of Isis and Osiris. From inscriptions on the walls we find that this beautiful, but frequently ignored, structure took more than 180 years to build.

After leaving Edfu a number of plantations of wheat and cotton are passed, which are best on the eastern bank of the river. This is a strange fact, but it seems throughout Egypt that the better levels for irrigation, remembering the methods used, are found on the eastern banks of the Nile.

From Edfu it is but a short journey to Aswan—scene of a great dam and site of the new High Dam Project.

Aswan, in early times known as Syene, is to many travellers the southern boundary of Egypt; few journey beyond.

Perhaps one of the difficulties is the first cataract, though it is possible to circumnavigate this and re-join the Nile two or three miles upstream. A cataract—and there are five shown on most modern maps of the river—is a series of rapids running fast between precipitous cliffs which have their feet at the water's edge. When the river is low the bed abounds with numerous rocks, but the danger comes in flood-time when these are submerged and the entire river becomes almost impassable to any form of boat. An occasional channel can be negotiated, but only by the most experienced.

Bruce arrived at Aswan during the morning of January 20th, and anchored at the edge of "a place of palm trees".

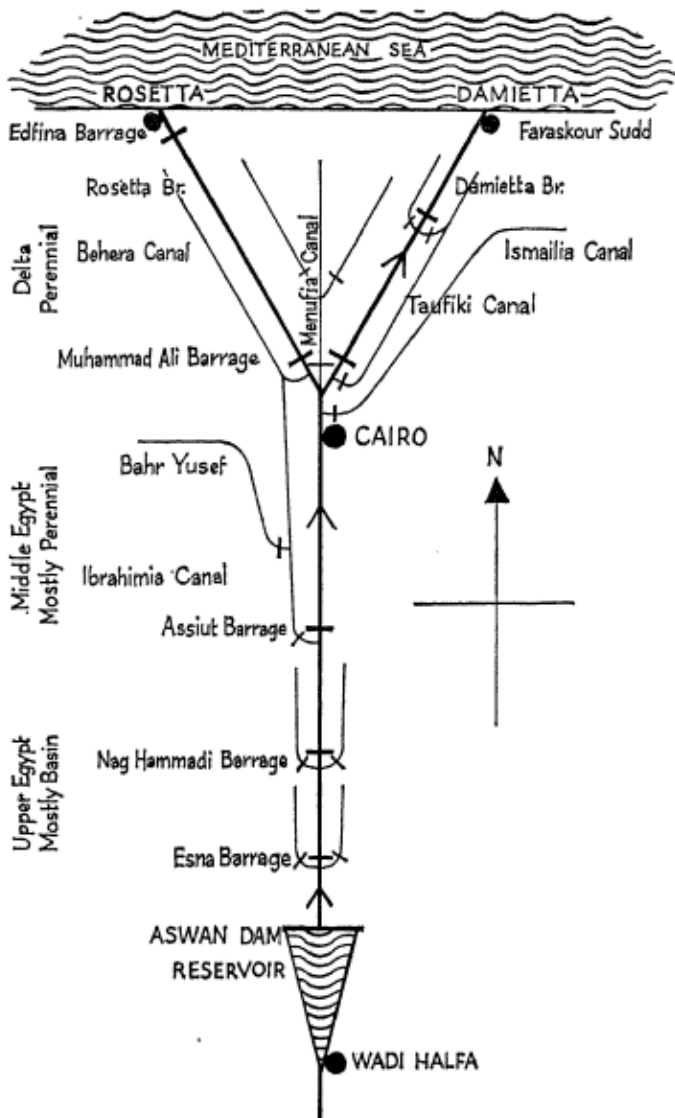
The descriptions given by Bruce of this area have no parallel today. For at Aswan a great transition has taken place.

No longer do we find the same flat, mellow Egypt to which we have become accustomed, and yet we have not arrived in the dark, mystifying forest which is most of Africa. The mountains on either side, though comparatively close to each other, shield a verdant plain in which grow hundreds of species of palm trees.

The Nile is dotted with small islands, amongst which can be seen the Island of Elephantine which was inhabited centuries before Aswan. Here the river is wide and deep. Here, for thousands of years, has been the natural gateway for trade between Egypt and the rest of Africa. Here is Nubia, the southern extreme of the Mediterranean world.

It will be recalled that the granite used in the original outer casing of the Great Pyramid came from Aswan. How was it possible to transport such heavy loads? What tremendous skill and ingenuity the ancient peoples of Egypt must have had. On practically every site in the country are found columns of granite identical to that still being quarried at Aswan.

North of the great dam, built in 1902, start the fertile lands of Egypt. South, the barren, rocky lands of Nubia.



A diagram showing the Aswan Dam and the barrages

In 1933 the Aswan Dam was raised in height, making the lake or storage area capable of holding more than 7,000,000,000 cubic metres of water. In doing so, the island of Philae is submerged for most of the year and the world lost access to the famous Temple of Isis. The building of the dam was a great feat—one of the biggest undertaken in the early part of the twentieth century. The wall of the dam is more than one and a quarter miles in length, along which runs a roadway twenty-six feet wide.

The dam, in addition to its main function, produces hydro-electric power. It also prevents and protects the valley from the dangers of flooding and gives to Egypt the means to increase the land-area under cultivation, especially in low seasons. Perhaps it might claim to be the most vital link in the chain of successful agriculture, therefore the link which maintains the economic structure of the country.

From the road crossing the dam, is seen the position of the Temple of Isis at Philae which was built about 400 B.C. From August to December, when the dam is opened, very little of the temple is exposed and when the dam is closed only parts of the two main columns are visible.

To travel from Aswan to the borders of Egypt just north of Wadi Halfa one boards a flat, broad-beamed steamer. The journey is estimated to take two days, but it has been known to take more! The scenery is similar to that in the Norwegian fjords, with the mountains descending on both sides into the river.

Here and there the ruins of old villages remain. The entire region strikes one as cold and uncharitable.

Today, in the mid-twentieth century, the steamer is comfortably furnished; food is plentiful, and once the traveller is in the saloon the outside passing scene is forgotten.

And when the journey to Wadi Halfa seems never-ending, when one is tired with the sameness of the surroundings; when one is becoming cross at being cooped up on the blunt and square-nosed steamer; when one has lost a certain amount of interest in the magic the land of the Pharaohs has offered, quite suddenly there appears a most awe-inspiring sight.

It is as though the days of travelling from Aswan have lulled the traveller into thinking there is little more to see. But there is. For here rests one of the greatest treasures of the past—the temples of Abu Simbel.

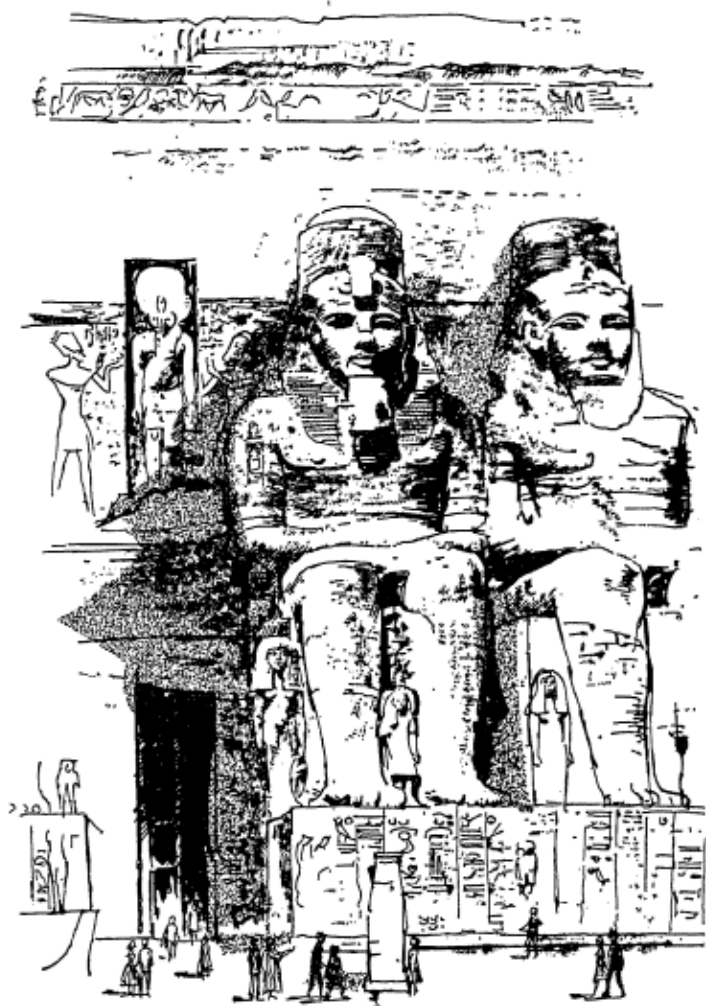
8

At the Source of the Blue Nile

FOR more than fifty years the world has regretted the submergence of the island of Philae at Aswan. Yet the building of the Aswan Dam so changed the agricultural life of Egypt that it seemed right then to lose the island for all time. Banishing the fear of famine from lack of water was one reason; the other was that fifty years ago there was no practical suggestion as to how the island could be saved.

Something similar is taking place today; but technological advances and world-wide willingness to help have, it would seem, solved the problem at Abu Simbel. The vast lake which the new High Dam will create could mean the loss of all temples and monuments from Aswan in the north to Wadi Halfa in the Sudan, more than three hundred miles away.

But is the monumental ensemble at Abu Simbel really worth saving? And if so, at what cost? To those who have seen the site, the answer to the first question is an unhesitating, Yes. To the second question the answer is, Save the area at any price.



In front of the Great Temple at Abu Simbel

Abu Simbel comprises a group of truly magnificent temples, among which is the Great Temple. It is the sight of this which gives such surprise and wonder after the slow journey from Aswan.

In front of the Great Temple are four gigantic, seated figures of Rameses II. These have been carved into the rock-face and stand close to the river on the western bank. The figures are about 66 feet tall, and each has a chest measurement of between 25 and 28 feet. Behind the figures, and going deep into the rock, are numerous other temples.

One rather strange twist comes into the story of Abu Simbel. By creating the new High Dam, and thus possibly having to submerge for ever the famous monumental remains, the island of Philae will be comparatively easy to restore to former glory, as the water between the two dams, Aswan and the High Dam, will be lowered some thirty-six feet.

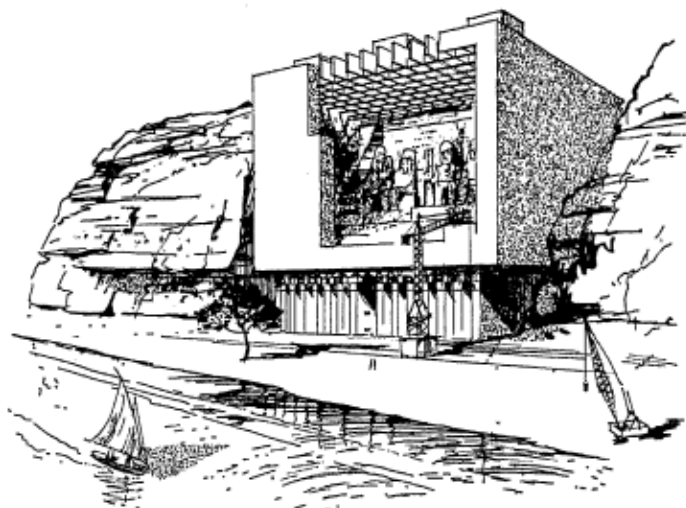
That Abu Simbel is important is not denied.

Yet the entire structure and surroundings were destined, until June 1961, to be for ever hidden under water.

The increasing population of Egypt has brought the necessity for her peoples to be, as near as possible, self-sufficient in food production. This means two things. First, that there shall be no risk of famine from lack of water, and second, that new areas of desert and unproductive lands must be reclaimed.

The suggestion of building a second dam at Aswan was agreed some years ago by the Egyptian

Government, not only to contain the river for more than three hundred miles and, by so doing, increase the land available for cultivation by more than three million acres, but to make available a new hydro-electric scheme for the entire region known as



It is proposed to lift the entire Temple at Abu Simbel by jacking to a height of 190 feet

Upper Egypt. The High Dam would mean an increase of the national food production by two-fifths, and power output would be increased more than ten times.

But, it may be asked, could nothing be done to by-pass the river? Could not an artificial lake be constructed to leave Abu Simbel untouched? Unfortunately, no.

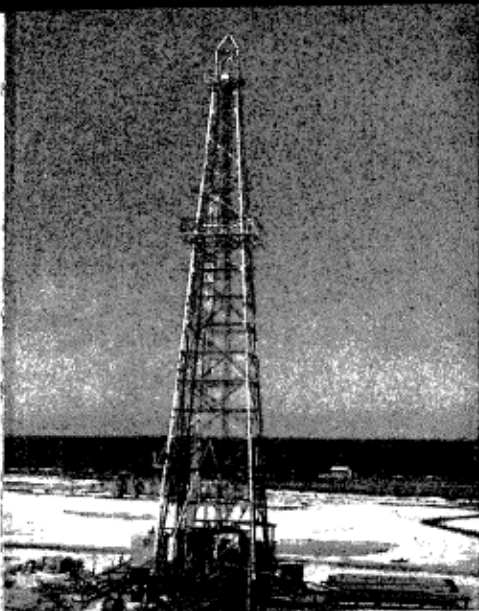
After many conferences, culminating in a meeting held under the supervision of UNESCO in June 1961, a means of saving the total loss of the temples was found. Countries on both sides of the Iron Curtain agreed to finance the *raising* of the 300,000 tons of rock into which the temples were hewn, to a level above that necessary to avoid the lake created by the new dam.

This feat of engineering skill, costing many million pounds, means the lifting by jacking devices of the entire temple area, to a height of 190 feet.

Work has commenced on the High Dam project, though many are sceptical about the date for completion. The dam will be rock-filled and more than 300 feet high. Its width at the base will be more than 1,000 yards and a roadway of 90 feet will span the dam. It is estimated that the storage area will contain water in excess of 130,000 million tons.

Below are listed some of the benefits to Egypt:

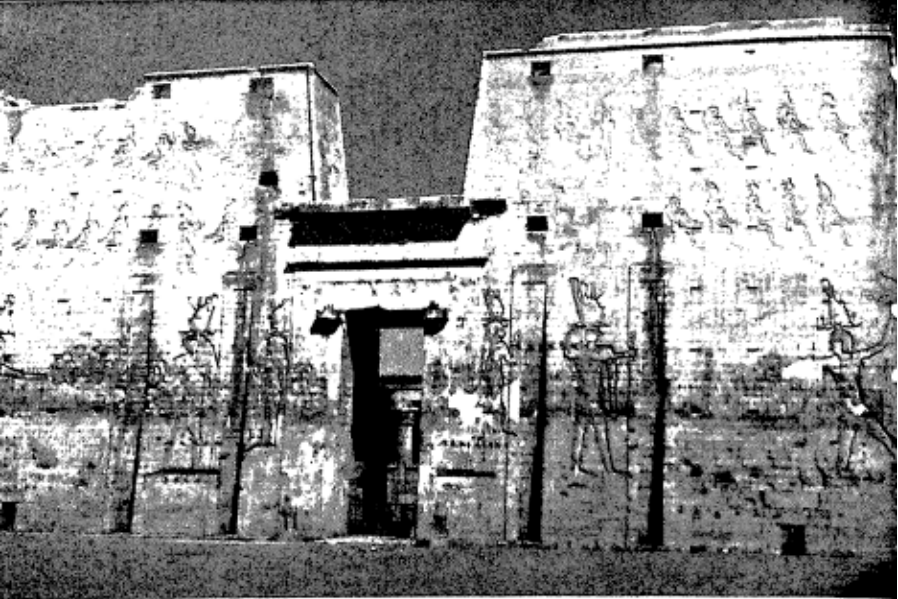
1. Expansion of the areas under cultivation by more than three million acres.
2. Guaranteeing water from the storage in years when supply is low.
3. Improving drainage conditions in all cultivable areas.
4. Maintaining a crop of more than a million acres of rice.
5. Giving protection against high floods, and saving the cost of repairing and renewing river embankments.
6. Improving navigation conditions.



(Above, left) An oil-drilling rig on the Gulf of Suez *(Above, right)* Coffee seller in a Port Sâid street

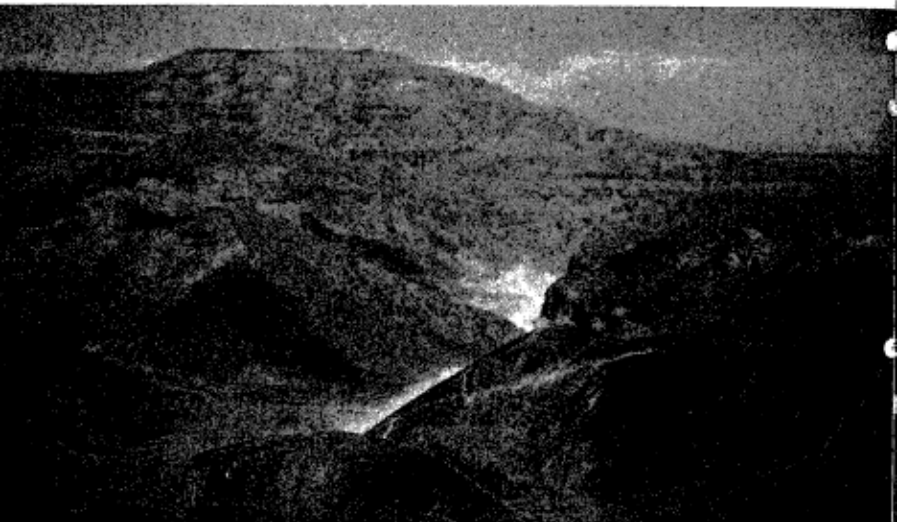
(Below) The southern entrance to the Suez Canal





(Above) The temple of Horus at Edfu, one of the best preserved antiquities in Egypt

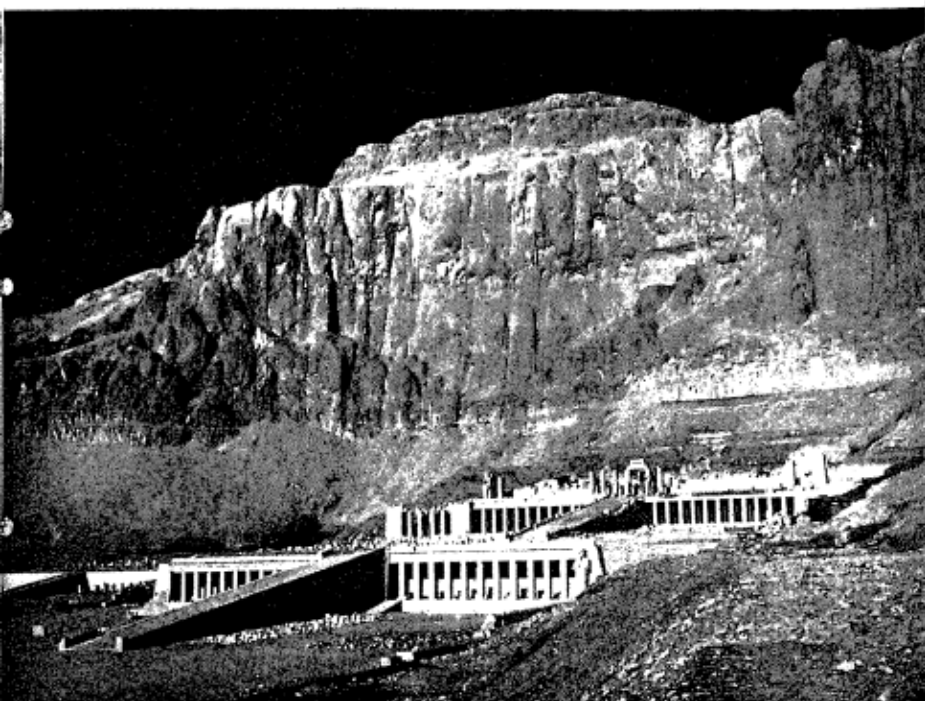
(Below) The Valley of the Kings—Photo Stanley Haines

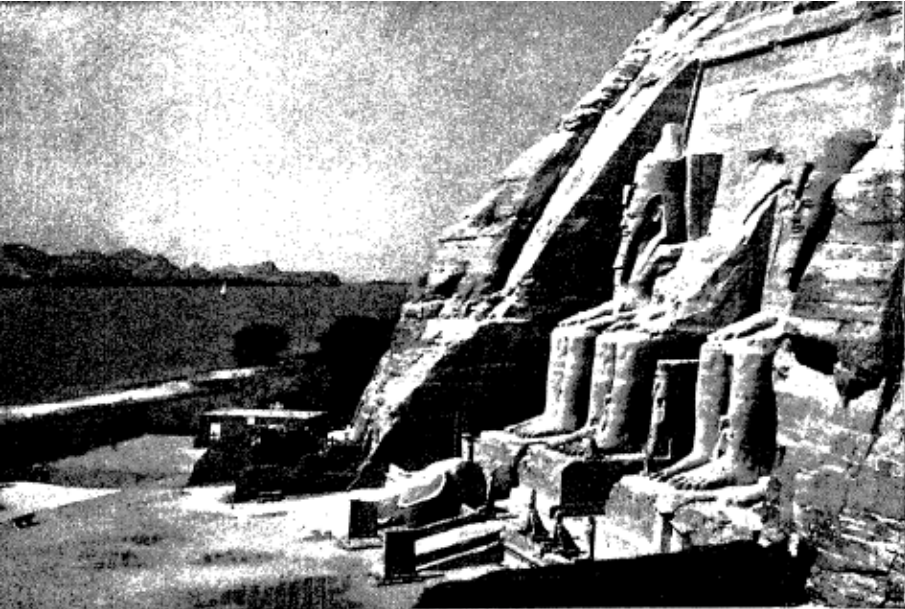




(Above) The entrance to the tomb of Tut-ankh-Amen in the Valley of the Kings—*Photo Stanley Haines*

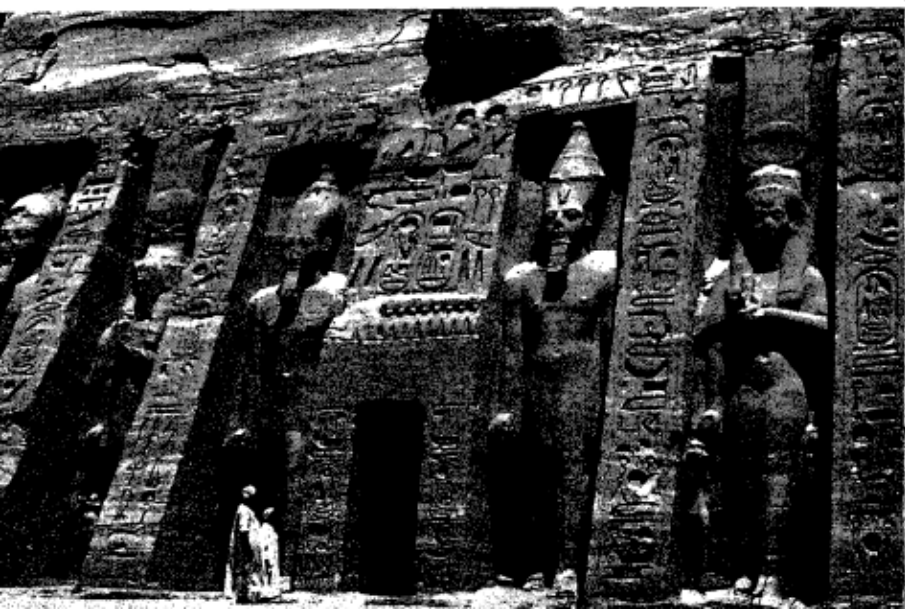
(Below) The magnificent temple of Queen Hatshepsut at Deir el-Bahri





(Above) Outside the Great Temple of Rameses II at Abu Simbel. The seated statues are of Rameses II and were carved out of the sandstone rock in 1218 B.C.

(Below) The front of the temple of Hathor at Abu Simbel. This temple was built by Rameses II for his wife, Queen Neferari



7. Producing hydro-electric power, thus increasing the industrial potential in Upper Egypt.
8. Giving employment to thousands during the building of the High Dam and, once this is completed, having work for hundreds of thousands on the new lands reclaimed.

The UNESCO undertaking in saving the temples of Abu Simbel has brought the attention of Nubia to many peoples.

Sir Mortimer Wheeler, the well-known archaeologist, writing in *The Times* of July 7th, 1961, said:

"The valley in Egyptian and Sudanese Nubia holds, in fact, a great deal that concerns the history and prehistory of civilization. Nubia was the artery through which forces and influences passed between Egypt, as one of the great leaders of civilization, and inner Africa with its natural wealth. Its monuments matter; it is more than a cliché to say that they belong to the general story of civilization. They are not lightly to be discarded . . ."

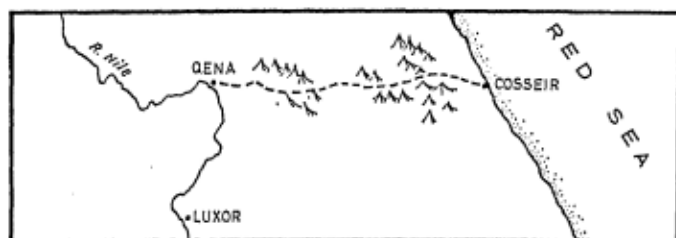
In his journey to the source of the Nile, Bruce did not travel up the Nile beyond Aswan. He had been told that the Nile was impossible to navigate, and that should he attempt to go, he would travel alone for not one member of his crew was willing to hazard his chance of survival.

Again Bruce was faced with a dilemma. Should he turn back? Or continue alone?

In making his decision he had the opportunity to

undertake something he had been considering for many weeks. Frequently since leaving Cairo his crew had told him of the wonderful and prosperous caravan route between Qena and Cosseir on the Red Sea.

Bruce had realized that should the Nile become too difficult to navigate, and if he made this journey, it would be possible to get a further boat to take him from Cosseir to Massawa off the coast of Abyssinia.



From here he would be able to reach the mainland and the lake at which he was convinced would be the source of the Nile.

This decision assured Bruce's place in history as the first European to reach the source of the Blue Nile, but missed for him the opportunity to know the point south of Khartoum where the one river, as we know it through Egypt, becomes two. The Blue Nile coming down from the mountains of Abyssinia; the White Nile, the source of which was not discovered until 1864, by J. H. Speke, flowing south from Uganda.

The idea of joining a caravan appealed to Bruce who

was now more than ever impatient to reach his goal.

The *canja* turned.

And with the fairly strong currents moved quickly north, James Bruce assuring himself "no vessel would manipulate the cataracts and wildness of the waters which, uncontrolled, break into untold streams, all of which abound in rock".

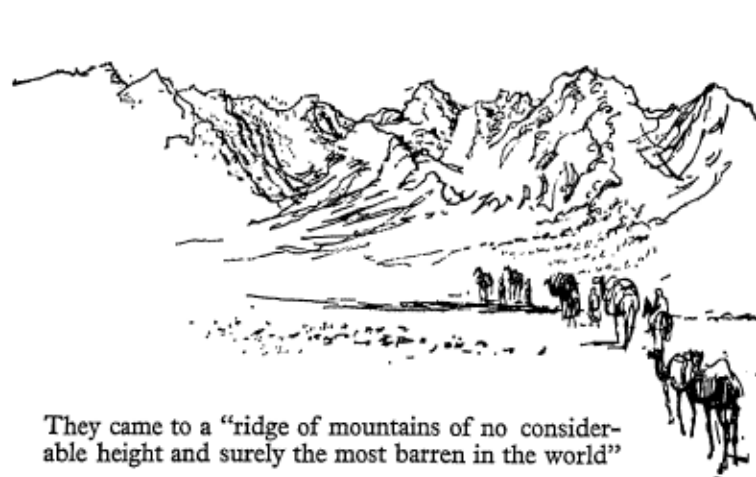
The course of exploration of Central Africa might well have been changed had it been possible for him to continue south beyond Aswan. But what man, however much his courage and ambition, would undertake such a journey alone?

Once again at Qena, preparations were being made for a caravan. This was similar to that carried out thirty years later by Napoleon's armies who made the cross-desert journey to Cosseir. M. Denon wrote of the 336 members of his party plus 200 extra camels to carry the baggage and water and "other articles necessary for an army post at Cosseir".

To this caravan (for there is safety in numbers) came Arabs; more than a thousand of them! Plus their camels. Denon in a whimsical way continued: "the sounding-to-horse produced a very merry scene. The camel, slow as he is in his action, in rising, lifts his hind legs with the greatest suddenness as soon as the rider is on his saddle. He then throws him first forward and then backward and it is not till after his fourth motion, when he is completely on his legs, that he who mounts him finds himself upright."

Bruce waited impatiently until February 16th, 1769, before being certain that all was ready. But the caravan was only seventy strong.

Once sure his servants were all mounted on horseback and that the camels of his party were securely



They came to a "ridge of mountains of no considerable height and surely the most barren in the world"

packed, he himself mounted. He was not happy about the so-called "guards" of the caravan and openly accused them of being a "set of thieves". Not a good beginning to an isolated and always dangerous journey.

Prior to his leaving he had, however, told the local Sheik of his intention to journey to Cosseir.

"What shall I do if I find myself in trouble?" asked Bruce.

"I have told you already," said the Sheik. "Cursed be the man who lifts his hand against you or does

not defend or befriend you. I will tell them all that you are a Yagoube (physician) seeking no harm, but doing good." And with this Bruce seemed perfectly happy.

The road from Qena crossed a sandy plain for the



first ten miles and then came to a "ridge of mountains of no considerable height and surely the most barren in the world". The plain through which the road had passed was never more than two or three miles wide and was totally devoid of any trees, shrubs, or

herbs. Neither was any living creature seen. Even the usual inhabitants of the desert, lizards, antelope and ostrich were, like birds, avoiding this particular place.

Eventually the caravan reached the wells at Legeta where they decided to stay for twenty-four hours.

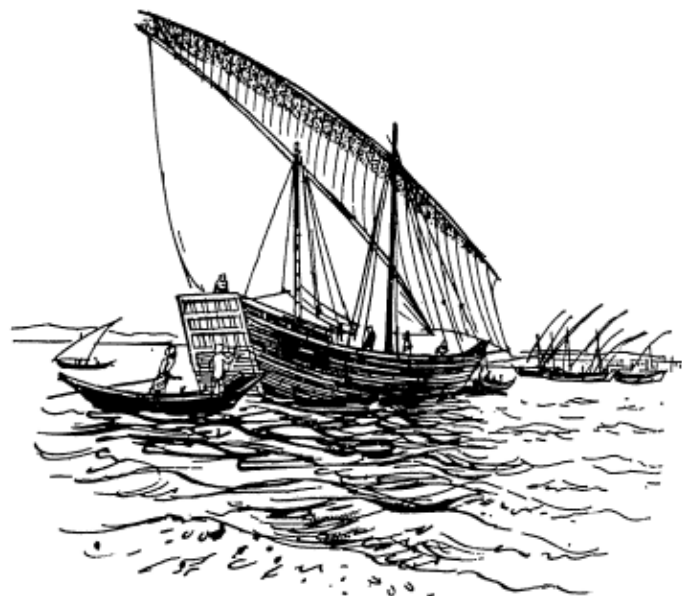
From Legeta the journey lay through a series of hills which Bruce recorded were of a "brownish colour, like the stones on the sides of Mount Vesuvius, and without any herb or tree upon them".

During February 20th the caravan began to descend from the hills and encamped for the night on a small plain which was interspersed with a few acacia trees. It was here that Bruce spotted an antelope and this, together with trees, gave him hope that he was nearing the end of a dreary, monotonous and slow journey.

However, this was not to be. It finally took Bruce a further nine months to reach the island of Massawa.

On the 22nd Bruce wrote in his journal: "... our road now presented one of the most extraordinary sights I ever saw. The mountains were of considerable height without a tree or shrub or blade of grass upon them, but these now before us had all the appearance of being sprinkled with snuff. As we were descending we were passing mountains of green marble on every side of us and at a quarter-past eleven we had the first prospect of the Red Sea and the port of Cosseir.

"It has been a wonder among all travellers, and with myself among the rest, where the ancients procured that prodigious quantity of fine marble with which all their buildings are covered; that



Bruce climbed aboard and the vessel left Cosseir

wonder now ceases, after having passed in four days more granite and marble than would build Rome, Athens, Corinth, Memphis, Alexandria and half-a-dozen such cities . . ."

Surely his goal was in sight Bruce thought as he climbed aboard a vessel on Tuesday, March 14th, 1769. Leaving Cosseir he had visions of a quick ending to the long journey which had started at

Alexandria so many months before. Yet the end was no nearer.

Many times the vessel left Cosseir only to return days or weeks later. Trouble with the crew and trouble with the sails continued to delay Bruce until in July he reached Jedda, a port on the coast of Arabia, some 50 miles west of Mecca.

Bruce eventually arrived at Massawa on September 18th, 1769.

A year passed.

A year of wandering in Abyssinia. A year of following false trails to the source of the *Bahr el Azrak*.

Since he left Egypt at Cosseir, Bruce had travelled across the Red Sea to Arabia and had arrived at the rugged coast-line of Abyssinia. After climbing 5,690 feet to the edge of Lake Tana he was told by his native servants that the river started its course higher in the mountains to the north. Yet, they said, the river did flow into Lake Tana. This added confusion to Bruce, for numerous streams entered the lake on all sides. And the lake was large, more than 1,000 square miles!

He waited a day before deciding to follow the course of a small stream on the south-eastern side of the lake. Tracing such a narrow and wandering stream added still more confusion and difficulty. Finally the stream was no more; the area was one complete marsh.

Standing at the edge of the marsh, the place he had expected he would find the true source of the river, Bruce remembered something he had been

told some months before: *'The source of the Nile is at a fountain. There, near a hill, will be found another hillock of green turf in the middle of a watery spot. It is there that the fountain of the Nile will be found. There is no other.'*

In front of him, across the marsh, he saw a hillock of circular form, the diameter of which looked about twelve feet. He hurried across the marsh and found the hillock was surrounded by a shallow trench, which Bruce records, "collects the water and *sends it eastwards*". To Bruce it looked like the altar it was; the altar upon which all religious rites are performed by the local tribe (the Agrows of Damot), a negro group who still survive in areas on the left bank of the Lower Sobat.

In the middle of the altar Bruce found a hole in which "grew no grasses or any weed". In the hole was pure and perfectly still water.

His journal continues: "The mouth, or opening is three feet in diameter, and the water stood at that time (November 4th, 1770) about two inches from the lip or brim. Nor did it increase or diminish during all the time of my stay . . . though we made plentiful use of it."

Near to this altar was a church, St. Michael Sacala, the priests of which were reluctant to tell Bruce anything about their identity or why they were there. He explained his mission; that he had come many thousands of miles and had travelled for many years, to reach the source of the River Nile. Surely, he claimed, he was now at his goal.

After hours of discussion the priests agreed that the fountain beneath the "altar" on the hillock was the true source of the river. They told him that they, and their predecessors, had traced the fountain to the spring, and the spring through the stream to the lake. They had then, by watching the currents across Lake Tana, found that this was the only water to flow into the main river.

Bruce was convinced this *was* the source of the River Nile, and his journal records: "... I had at this moment in my hand a large cup made of a coco-nut shell, which I procured in Arabia, and which I filled to the brim with water from the spring under the altar. I drank speedily and cheerfully a toast to his majesty King George III, with the addition of 'confusion to his enemies'!"

His own words continue and are best to describe his feelings at that moment: "It is easier to guess than to describe the situation of my mind—standing on the spot which had baffled genius, industry and enquiry of both ancients and moderns, for the course of more than three thousand years.

"Kings had attempted this discovery at the head of armies, and each expedition was distinguished from the last only by the difference of the numbers which had perished. Fame, riches, and honour had been held out for a number of ages without having produced one man capable of gratifying the curiosity of his sovereign.

"Though a mere private Briton I had triumphed."

9

The Homeward Journey

THE exhilaration at finding the source of the Blue Nile turned to anguish. James Bruce, aware that the journey home—the journey out of Abyssinia and through Egypt—was not going to be easy, expressed his feelings when he wrote: “On the night of my arrival [at the source] melancholy reflections came upon my state. The doubtfulness of my return in safety, were I permitted to make the attempt, and the fears that even this might be refused, according to the rule in Abyssinia . . . crowded upon my mind, and forbade all approach of sleep.”

The “rule” meant that once a traveller arrived in Abyssinia he was not allowed to leave, except by special consent of the king. But this was a bad time to ask. Once the king heard that Bruce wished to return to England, he ordered that “his visitor” join him in his march to Gondar, where he was to revenge himself upon those who supported a rival king.

“Grief and despondency,” wrote Bruce, “now came rolling upon me like a torrent; relaxed, not

refreshed by unquiet sleep, I started from my bed in the utmost agony; I went to the door of my tent. Everything was still. The Nile, at whose head I stood, was not capable either to promote or to interrupt my slumbers. . . ." In this despairing way Bruce waited, knowing well the hazards which were ahead.

His journey from Alexandria had, he reflected, been almost too easy. At no time was his life in real danger; in fact, most of the peoples he met in Middle and Upper Egypt practically ignored him and his party. How different were to be the journeys and fate of others who followed Bruce in exploring rivers in, and beyond, the African continent.

Eight years after the success of Bruce, there was formed in England, the Africa Association, whose purpose was to open up the "Dark Continent". The first expedition under their guidance was that of Mungo Park, also a Scotsman, who was sent to trace the source of the River Niger, which resulted in his death from native tribes in 1806.¹ In 1808, Simon Fraser explored and named the Fraser River, the chief river of British Columbia. Though Fraser traced much of this river from its source north of Mount Brown in the Rocky Mountains, he failed to reach its mouth. David Livingstone travelled down the Zambezi River between 1852 and 1854, as part of his journeys in South Africa. And as recently as

¹ See *WITH MUNGO PARK IN WEST AFRICA* by HARRY WILLIAMS, in this series.

1925, Colonel Fawcett explored in the region of the boundaries of Bolivia and Brazil and was lost without trace in the Amazon Basin.¹

These, and numerous others, in the eighteenth, nineteenth, and twentieth centuries, had terrible times in the exploits—either at the hands of hostile tribes or in encompassing the difficulties of torrents and dangerous, unknown, waters.

Bruce, however, was to wait a further three years in Abyssinia before being allowed to leave by the difficult and trouble-filled route from Tcherkin to Sennaar and thence to Aswan and back to Alexandria. And his greatest difficulty of all was to come upon his arrival in England. Here, in 1774, after a short interview with King George III, he realized his story was not believed; that his travels to discover the source of the Nile were considered so much fiction, if not fabrication. Not until 1790 was his story published and made available to the world. Disillusioned and disappointed, Bruce died in 1794, after an accident at his home in Scotland.

Five days after his excitement at finding the spring under the "altar", Bruce decided to follow on foot the course of the river, from its source to the plain of Goutto, which meant retracing the last few miles of his journey. Taking leave of the priests of St. Michael Sacala, and with a great crowd of young men of the area, who had followed him with their

¹ See WITH COLONEL FAWCETT IN THE AMAZON BASIN by HARRY WILLIAMS, in this series.

lances and spears, Bruce reached the borders of the country of the Agrow tribe, making his way to Gondar where he joined the king who was ready to fight in the coming battles.

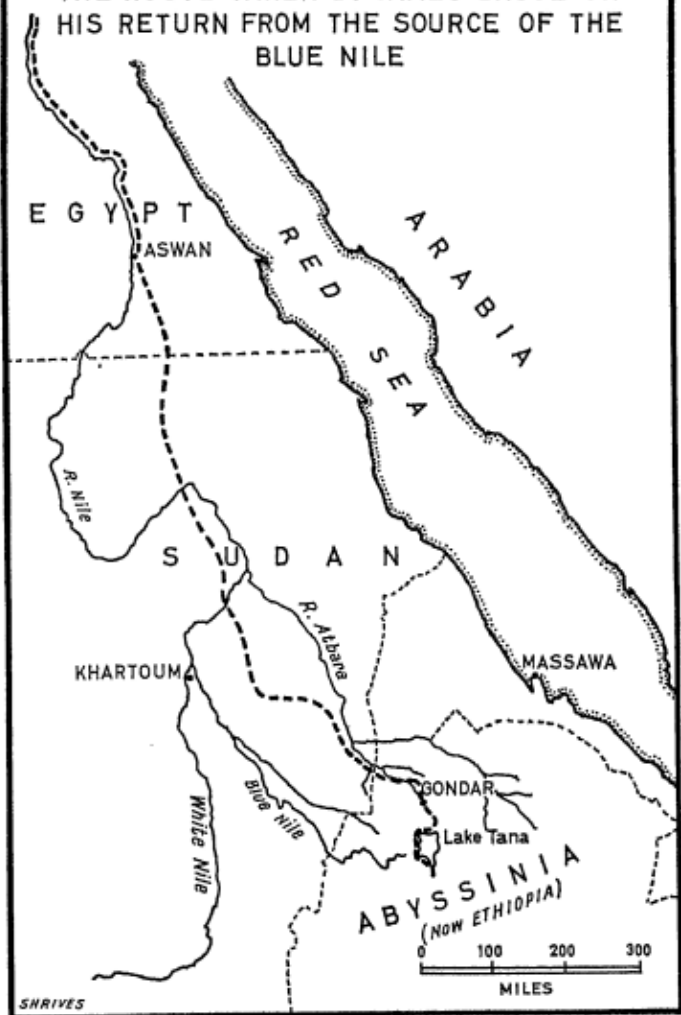
Tens of thousands of men, some armed musketeers, and many with lances and spears, were drawn together for the march. They arrived at Gondar at nine o'clock in the morning of December 24th, 1770. Once again Christmas-time was playing an important part in the life of James Bruce.

The town was taken, and the armies moved on, swearing vengeance on all who would not recognize the true king. After numerous skirmishes, all of which are recorded in his book, Bruce wrote: "On the 17th of August, 1771, my whole attention was taken up with preparations for my return through the kingdom of Sennaar and the desert." But he was called back by the king to Gondar for a further four months of waiting.

"It was the 26th of December, 1771 (Christmas-time again) at one o'clock in the afternoon that I finally left Gondar. I had purposed to set out early in the morning, but was again detained. The king delayed my setting out by several orders sent to me in the evening; and I plainly saw there was a meaning to this, and that he was wishing to throw difficulties in the way until some accident or sudden emergency should make it absolutely impossible for me to leave Abyssinia . . ."

However, Bruce was leaving Gondar, setting out on his homeward journey.

THE ROUTE TAKEN BY JAMES BRUCE ON
HIS RETURN FROM THE SOURCE OF THE
BLUE NILE



Within a few miles he and his party were finding the desert making the journey slow indeed. To travel seven miles in a day was a great achievement. In addition to the country causing numerous hardships and delays, there were frequent encounters with wild animals. At one place the party with Bruce was attacked by a pack of hyena who, after wounding two of the asses, were chased off by gunfire. The native servants were certain the hyena would return and each night a close watch was set.

Early in February a lion killed and carried off one of the asses, making the party more nervous still.

In the months ahead these difficulties would appear so trivial it is likely Bruce would have forgotten them altogether had he not made notes at the end of each day.

On March 20th, he reached a village called Rashid—no longer shown on maps. Here were seven or eight wells of good water. The village, though full of ruins, was in the eyes of Bruce extremely beautiful. He mentions this was fairyland set in the middle of an inhospitable and uninhabitable desert—full of large, wide-spreading trees, loaded with flowers and fruit, and crowded with an immense number of deer. He decided to stay for some days' rest until the village was struck with a *simoom*¹, a hot, dry, suffocating, dust-laden wind. So severe was this form of sandstorm that some members of his party died.

¹ *simoom*: from the Arabic word for poison, which is anglicized as *simm*.

Three days after leaving Rashid Bruce entered the town of Teawa, where once again he was forced by the ruler to stay longer than he wished, finally leaving on April 18th for Beyla.

Beyla was eleven miles west of Teawa, but the journey took two days, through a barren, sandy plain, without signs of water, living creatures, or grass.

The party was now converging on the Nile, and frequently came upon villages with good water and signs that they were not far from the kingdom of Sennaar. On his arrival there Bruce was conducted to a large and spacious house belonging to the local Sheik and about a quarter of a mile from the king's palace, where he was to be received.

The king's palace was a single-storey building, built entirely from clay. As Bruce went through he noticed the large number of rooms which were unfurnished, and believed these to be ready to house the king's troops should it be necessary to defend the palace. The room in which the king sat was a complete contrast. The floor was covered with broad, square tiles and over these was laid a Persian carpet. The king sat on a form of mattress which had been placed on top of a second priceless rug. Round him were a number of gold-coloured cushions of Venetian cloth. His dress did not correspond with the magnificence of his room, for he wore "a large loose shirt of blue cotton, which seemed not to differ from that worn by his servants, except that all the edges of it, had seams which were double stitched with white silk".

Once again his fate was in the hands of a young ruler. And as had happened in Abyssinia he was forced to stay at Sennaar, becoming almost part of the royal household.

Finally he took leave of the King of Sennaar on September 5th, 1772, to make his way to Chendi, a town about a hundred miles north of Khartoum. "This is a large village," wrote Bruce. "In it are about 250 houses. But the temperature here is unbearable for me. On the 13th of October it was so excessively hot that it was impossible to suffer the burning sun. The poisonous *simoom* blew likewise as if it came from an oven. Our eyes were dim, our lips cracked, and no relief was found by drinking an immoderate quantity of water. The people advised me to dip a sponge in vinegar and water and hold it before my mouth and nose, and this greatly relieved me . . ." But to Bruce the greatest relief came when he left Chendi late in October to make his way back into present-day Egyptian territory. His journey now took him north across the Nubian Desert, through some of the most desolate country imaginable.

Shortly after leaving Chendi came the first of a series of difficulties and delays to which, by now, Bruce was becoming accustomed.

After having gone twenty-one miles, and whilst resting in some acacia trees, he was surprised and terrified by a sight which is surely one of the strangest phenomena in the world.

"In that vast expanse of desert we saw a number

of prodigious pillars of sand at different distances, at times moving with great speed, and others stalking on with a majestic slowness. At intervals we thought these would be upon us and overwhelm us, but they would retreat so as to be almost out of sight, their tops reaching the very clouds. At mid-day they began to advance again with considerable swiftness, the wind being very strong at the north. Eleven of them ranged alongside us; the diameter of the largest appeared to me at that distance as if it would measure ten feet."

Suddenly the wind turned, and this remarkable phenomenon disappeared out of sight. As with the *simoom*, these dreaded "moving sands" are feared throughout desert areas. The effect of being trapped in this vortex is as if sucked into a giant vacuum; and this means certain death.

The cloud referred to by Bruce was probably the layer of sand which is lifted by the winds and which frequently remains above for days, even to the extent of blotting out the sun.

Days later, Bruce, who was now lame in both feet, and who moved only with considerable difficulty, had what might have been the final tragedy. One night, he heard somebody tampering with the chains which tied together the camels' feet. Although the chains were secured by a padlock it did not prevent marauders silently approaching the resting party and cracking several links in the chain with a hard stone.

Bruce investigated, but so slow were his actions, that no trace was found of the raiding party.

By now the party accompanying him was suffering from the effects of the shortage of water—a constant problem in this part of Nubia. The wells, such as they were, were often stagnant and disease-ridden. Where the wells were fresh, the servants could hardly contain themselves and drank too freely. The camels also were now beginning to falter and their numbers were decreasing. This added the problem of how to carry the essential equipment back to Aswan.

Bruce wrote: "I saw the fate of our camels approaching and that our men grew weak in proportion. Our water, though in all appearances we were to find it more frequently than in the beginning of our journey, was nevertheless brackish and scarcely served to quench our thirst."

On November 28th, the straggling party entered a narrow defile in the rocks. Bruce climbed to the highest point and expected to see the Nile. He was disappointed.

Later that day, when sitting with his hands covering his eyes, he heard quite distinctly the sound of rushing water. This he supposed, quite correctly, to be the first cataract. But instead of being ahead of him and slightly to the west, the sound of the torrent came from the south! Had he gone too far north? How great a distance to the west was the river?

These questions were answered soon after dawn on the 29th, for ahead of them they saw the palm-trees of Aswan . . .

After resting and refreshing himself, Bruce set about obtaining once again the essential letters to

the chieftains of the villages to the north. He paid off his servants with money obtained by using the letters of credit he had carried for nearly four years. And on December 27th, 1772, sailed once again on the Nile. This time towards Cairo, where he arrived on January 10th, 1773.

IO

Away from the Tears of Isis

JAMES BRUCE had, after leaving Cosseir, in March 1769, completed his outward journey through Egypt, though he had seen little of the country other than the Delta and Nile Valley. But what is either side of the Delta and Nile Valley; the places in which Bruce had shown little or no interest?

Present-day Egypt—geographically—is little changed. Of course, the controlling of the Nile and the opening of the Suez Canal and other major engineering feats have, to some extent, changed the “physical pattern” of the country during the past century. And her boundaries have altered, giving Egypt an area of approximately 386,000 square miles.

To make administration of such a complex country easier, the territory has been divided into four regions, each of which, separately, is of great interest and variety. These regions are known as the *Delta and Nile Valley*; the *Western Desert*; the *Eastern Desert*; and the *Sinai Peninsula*.

This strange country is stranger still when it is

realized that the irrigated land of the Nile Valley and the whole of the Delta area covers less than four per cent of the land-mass. In 1961, in that four per cent, lived more than ninety-five per cent of the population, which is approximately twenty-four millions.

But what of the "interest and variety" of the rest of the country? What happens to the remaining ninety-six per cent of the land?

Practically three-quarters of Egypt comprises the region known as the Western Desert. The remaining one-quarter can be split into two halves; an eighth, that is some 48,000 square miles, comprises the Eastern Desert region, and 48,000 square miles covers approximately both the Sinai Peninsula and the Nile Valley and Delta.

However, before describing the regions we must first consider the climate.

The country can be divided into four layers: The *North Coastal* which enjoys a mild climate all the year round by virtue of the influence of the sea which moderates the temperature during the summer and warms it in the winter, the temperature variation in the course of a year not exceeding twelve degrees centigrade.

The *Delta*, which is less mild than the Coastal Region, is characterized by its warm winters and hot summers. The temperature variation is fifteen degrees centigrade: the annual rainfall being very light.

The *Central Area* between Cairo and el Minya,

with a climate very similar to the Delta, though summer temperatures are higher.

The *Upper Area*, with a very hot and dry climate throughout the year. The temperature variation is eighteen degrees centigrade.

Except for a narrow belt on the Mediterranean, Egypt lies in an almost rainless area in which high daytime temperatures fall quickly by night. In the north the plateaux are low and level out at the coast to a few feet above sea-level. South of Cairo they rise to a height of 1,025 feet.

So, although we have a country of little *variation* in climate, and little variation in temperature, Egypt is made up of ninety-six per cent unpopulated and uninhabitable desert. For centuries this has been the greatest single problem to economic development. By using the modern skills and technical advice of a number of countries it is, today, within bounds of possibility to prepare these deserts to prove useful to Egypt in her need to cater for an increasing population.

The Western Desert is bounded in the north by the Mediterranean and the south by the Sudan. The western boundary is the Great Sand Sea of Libya and eastern extremes of Cyrenaica. The eastern boundary being the Nile.

Though this vast desert mass may sound bleak and uninteresting it holds great potential in the Government's plans for development.

Only five major habitable areas are found in the

Western Desert proper, the oases of Siwa, Bahariya, Farafra, Dakhla and Kharga, though the coastal region has some small ports and holiday centres.

Each of the oases is linked by fairly good-class roads to the Nile Valley. In addition a train service



In the Great Sand Sea, the western boundary of Egypt

runs from Mersa Matruh on the Mediterranean coast to Siwa, and from el Kharga to the Nile Valley.

At Siwa, seen on the map on page 24, we find one of the largest date-producing areas of Egypt, the crop playing a big part in the export trade. The oasis, a very few miles from the western boundary, is about 285 miles west-south-west of Alexandria. Siwa, lying on one of the oldest of caravan routes, has been written about many times. Today these old routes are part of good second-class roads going

both north and south of the Quattara Depression and then making their way to the east, to the Nile Valley.

One of the strange things about the oasis is the number of *lakes* which are contained in the locality.

We have mentioned that the roads from Siwa go north and south of the Quattara Depression—the great salt deposit considered as one of the largest of its kind in the world. This depression lies west of the Nile Delta, and is bounded on the north and



Siwa Oasis, one of the largest

west by high ridges, but is open on the east and south. Most of the Quattara is below sea-level—a true depression. It is 190 miles long, from the north-east to the south-west; its maximum width extending to about 90 miles, with a total area of 12,250 square miles.

The depression also comprises two small oases, Maghara and Karah, the first lying at the narrow eastern end about 130 miles from Cairo and about

35 miles from the Mediterranean coast, and the second at the western end, at a distance of about 50 miles from Siwa.

In the Western Desert, the government of Egypt is greatly interested in Bahariya Oasis, one of a group of four not too far distant from each other.



date-producing areas of Egypt

A few hundred miles south of Cairo these four oases are being developed under the title of the "New Valley Project". But development depends as it always has done on the amount of water available.

The rain which falls on the coastal areas of Egypt is scanty; such as there is collects and runs down

through the valleys of rock into the sea. During its course, however, some of this rain-water filters through the sub-soil and it is possible to raise this to the surface by various devices. This already has produced fertile lands out of desert not directly irrigated by the waters of the Nile.

The Government examined and measured very carefully, over a number of years, the amount of water which would be available in the New Valley Project area. Wells were sunk deep into the oases of Bahariya, Farafra, Dakhla and Kharga with great success.

Research also proved from the number of successful bores that enough water is available to irrigate this entire region, provided that the crops selected to be grown there are, in the beginning, those which require little water on which to thrive and which stand little or no chance of damage when exposed to the transportation difficulties to main distribution centres.

The area involved amounts to many tens of thousands of acres. Examination has shown that in the first few years much of the land would be suitable as grazing ground for cattle and sheep, and this only if early irrigation is carried out by mechanical means and by spring methods—a complete contrast to the Archimedian screws, *shadoofs* and *saqias* still in use in the Nile Valley.

In parts of the area it is possible that two or more crops would be harvested each year.

Another tremendous advantage in the New Valley Project is that the subterranean waters are pure enough to be used for irrigation and for drinking

purposes, thus making it easier to cater for the thousands of workers required.

At the moment, around the four oases, are grown small but successful crops of corn, maize, oats, potatoes, spinach, tomatoes, onions, cabbages, bananas, oranges, plums, figs, peaches, water-melons, olives and dates. Development here of the size envisaged would introduce many additional crops and greater variety of vegetables.

Along the coastal strip from Alexandria to the borders at Sollum runs a first-class road, whilst the railway takes passengers and goods only as far as Matruh and Siwa. Mersa Matruh, the first port west of Alexandria, is today a holiday centre and resort. In addition the ports at both Sidi Barrani and Sollum are used extensively by small coastal ships, bringing the produce of Siwa back to the ports of Alexandria and Port Said.

Half-way between Alexandria and Mersa Matruh is El Alamein, the scene of the great battle fought in 1942 and which became one of the major turning points of the Second World War. The coast road, the railway, and the towns and villages of the Western Desert, are known to thousands of troops who fought there.

The Eastern Desert, very much more rugged and mountainous than its western counterpart, extends from the Suez Canal in the north to the Sudan border in the south, and from the Nile Valley in the west to the Gulf of Suez and Red Sea in the east.

No plans exist for developing any of this region into land suitable for agricultural purposes. The region is so rich with mineral deposits, that great emphasis is being placed on the part these are to play in the Egyptian economy.

Among the deposits being mined is red iron ore found in the area north-east of Aswan. The ore is mined near the surface and has been located over an area of more than two thousand square miles!

Other deposits found in the Eastern Desert include magnetic iron ore, yellow iron ore and manganese, all used in the production of steel.

Oilfields exist along the coastal region of the Gulf of Suez and the Red Sea; one of the largest being discovered late in 1959.

The Government gives much attention and support to what it calls the "rural and regional industries" of both the Western and Eastern Desert regions: these industries being divided into three categories:

1. Food and agriculture.
2. Applied industries.
3. Simple chemical industries.

In the first group are included dairy products and the canning of both fruits and vegetables, etc. Applied industries include textiles, leather work, toy-making, ceramics, etc. The third group, the making of perfumes and soaps, etc. Here is a nation-wide revival of local craftsmanship which is displayed in the Khan el-Khalili district of Cairo.

Finally, and of paramount importance to the entire country, is the extent of the phosphates mined in the Eastern Desert.

In following the journeys of Bruce from Alexandria, we travelled through the Delta and Nile Valley region, which leaves of the four regions, the Sinai Peninsula, whose boundaries are to the west the Suez Canal, and to the east the borders of Israel and the Gulf of Akaba. As a northern boundary, the Sinai has the Mediterranean Sea, and in the south the Red Sea.

The northern strip of the peninsula is a sandy plain stretching from the central hills to the sea.

Across this plain, and again running parallel to the coast, is a road and railway. But a sudden change of scene, almost frightening in its ruggedness and solemnity, is found in the hills in the centre. The land becomes increasingly mountainous as one journeys south.

These mountains at all times of the year make a remarkable spectacle. The high granite rocks glow brightly in the sun during the summer and in winter are covered with ice and snow.

A certain amount of mining both for oil and iron ore is carried out along the coast of the Gulf of Suez.

From earliest times Sinai has been a highway for armies, and it was through the peninsula that Joseph and Mary fled to Egypt with the infant Jesus.

Sinai is also a revered place in the history of the early Christians who fled from their persecutors and

found shelter and isolation in a place ideally suited for a quiet and contemplative life. A community, established in the southern tip of the peninsula, can be visited today. This is the Monastery of St. Catherine. Not far from the monastery is the "Valley of the Grotto" where can be found many inscriptions dating from 3000 B.C.

About a hundred miles from Port Suez is a fertile oasis at the foot of Mount Sinai—the mount on which God was revealed to Moses when he delivered the Ten Commandments (Exodus 19, 20).

Since 1869 Asia, of which the Sinai Peninsula is part, has been divided from Africa by the Suez Canal, the man-made waterway of such importance to the shipping of the world.

This canal was traditionally built about 2000 B.C. under Senousret III of the Twelfth Dynasty. Vessels coming from the Greek Sea used to go through the first eastern branch (the Pelusiac branch) of the Nile, which was one of seven branches, to the town of Bubastis (Zagazig) whence they went through the canal eastward, passing to the Bitter Lakes. These lakes were at that time an open gulf communicating with the Red Sea at the port of Clysma.

By 610 B.C., in the reign of Pharaoh Necho II, sand obstructed the canal. It had been long neglected and an earthen barrier thus separated the Red Sea from the Bitter Lakes. Necho began to re-cut the canal but later abandoned the work.

When Darius Hystaspes, King of Persia, ruled Egypt in the year 510 B.C. the canal attracted his

attention and he ordered its digging to be continued. He introduced many improvements but succeeded only in connecting the Bitter Lakes with the Red Sea by minor canals unfit for navigation except during the period of the Nile flood.

Under Ptolemy II (283-245 B.C.) the canal, over its whole length, was once more made fit for navigation and the section between the Bitter Lakes and the Red Sea was re-dug.

In A.D. 98, for reasons of commerce, the Romans found it necessary to restore the Suez Canal after it had again been neglected by the later Ptolemies. Yet, once more, the canal was not maintained and it was out of use by the end of the third century.

Amr Ibn el-As had the idea, at the beginning of his rule in Egypt (A.D. 642) to dig a canal directly connecting the two seas, and crossing the low, flat plain extending south of a town near the present Port Said.

The Arabs thus navigated the canal of the Romans. This canal was called The Canal of the Caliph and was in use for about 150 years. However, in A.D. 776 the Caliph ordered it to be obstructed to prevent its use for the transport of supplies to the people who had rebelled against his authority. The connection between the two seas was then interrupted for eleven centuries.

A major difficulty in any plan for a canal was the belief, held until the late eighteenth century, that the Red Sea was higher than the Mediterranean.

In recent history the first serious step towards

"planning" a canal was taken by Napoleon in 1798. This, he had long felt, would open the way to enable the French to attack the British in their increasing empire across and beyond the Indian Ocean.

However, Napoleon's defeat in Egypt allowed the matter quietly to rest until another Frenchman, Ferdinand de Lesseps, came forward with a fresh, and so-called "international", proposal in 1854.

The de Lesseps plan created a scene of much political intrigue between France, Great Britain, Egypt and Turkey. Eventually, on November 30th, 1854, the authority to the Universal Maritime Suez Canal Company was issued, and work commenced on building the canal a year or so later.

The authority, issued by Egypt, read:

"Our friend Mons. Ferdinand de Lesseps, having called our attention to the advantages which would result to Egypt from the junction of the Mediterranean and Red Seas, by a navigable passage for large vessels, and having given us to understand the possibility of forming a company for this purpose composed of capitalists of all nations, we have accepted the arrangements which he has submitted to us, and by these presents grant him exclusive power for the establishment and direction of a Universal Company, for cutting through the Isthmus of Suez, and the construction of a Canal between the two seas, with authority to undertake a course and all the necessary works and erections."

Since 1869, when the Suez Canal was opened (almost to the day one hundred years after James

Bruce had arrived in Egypt), many improvements have been carried out. In 1889 it was agreed that the depth was not enough to allow larger vessels, when fully loaded, to use the canal. Dredging started and the depth was increased to a minimum of 27 feet. At the same time the canal was widened to at least 200 feet.

In 1961 work is proceeding to deepen and widen the canal to facilitate the easier flow of the ever-increasing traffic. In effect this will enable 65,000-ton ships with a 45-foot draught to pass freely in both directions.

The canal is 100 miles in length, more than 21 miles of which go through four lakes, the Bala Lake, Lake Timsa and the Great and Little Bitter Lakes.

The Mediterranean approach is at Port Said; the Red Sea or Gulf of Suez approach is at Port Suez, at which places the dues are collected.

Running alongside the canal on the western bank is a road and the railway line, both passing through the large town of Ismalia about half-way between Port Said and Suez. By the side of this road is a secondary canal known as the "Sweet Water Canal"—a fresh-water channel taken from the Nile's flow and used by local inhabitants for all purposes, including drinking and washing cattle!

Originally the "Sweet Water Canal" was created to give the labourers refreshment during the thirteen years it took to build the Suez Canal. But the "Sweet Water" (it has never *really* been sweet!) came too late to save the thousands of Egyptian labourers

who were forced to work and die during the digging of the canal.

The importance of this area to world trade and its position as a high-spot of political manœuvring is well known. Egypt, being at the corner of Europe, Asia and Africa is a country of much international importance; the Suez Canal giving her extra responsibilities.

Geographically, Egypt is a strange land, an unbalanced mixture of desert and highly fertile strip. She is peopled by millions who have, for the first time, the opportunities to learn to read and write. Mass illiteracy, and the misery this brings to a nation, is, perhaps, passing.

Were it possible for James Bruce to re-visit the scenes of his journey he would, no doubt, be bewildered by the pace of Egypt's social and political development. Yet, as he knew, these people were never arrogant and belligerent, but lived at the mercy of the sun and the river. No doubt Bruce would be surprised beyond measure at man's skill in harnessing the River Nile—*his* Nile—to give such benefits to a nation. It is certain also that Bruce would travel with new eyes and visit the remains of ancient Egypt, now uncovered for all to see.

By his journey to discover the source of the Nile, Bruce opened up African exploration. His place in history is assured.

Bibliography

- BRUCE, James, *Travels to Discover the Source of the Nile in the Years 1768-73*, London, 1790:1804.
- DENON, Vivant, *Travels in Lower and Upper Egypt during the Campaigns of General Bonaparte*, London, 1802.
- PETRIE, Sir Flinders, and others, *A History of Egypt*, Methuen, London, 1924.
- SELLMAN, R. R., *Ancient Egypt*, Methuen, 1960.
- WOOLLEY, Sir Leonard, *Digging up the Past*, Pelican Books, London, 1937.
- MURRAY, Margaret A., *The Splendour that was Egypt*, Sidgwick and Jackson, London, 1954.
- EDWARDS, I. E. S., *The Pyramids of Egypt*, Penguin Books, London, 1955; *The Rosetta Stone*, British Museum, London, 1961.
- MELLERSH, H. E. L., *Finding Out About Ancient Egypt*, Muller, London, 1960.
- NEUBERT, O., *The Valley of the Kings*, Hale, 1957.
- MAUGHAM, Robin, *Journey to Siwa*, Chapman and Hall, London, 1950.
- United Arab Republic Year Book*, 1961, Cairo, 1961.
- MAREI, Sayed, *Agrarian Reform in Egypt*, Cairo, 1960.
- HURST, H. E., *The Nile*, Constable, London, 1957.
- CARRINGTON, Richard, *The Tears of Isis*, Chatto and Windus, London, 1959.
- PERHAM, Margery, and SIMMONS, Jack, *African Discovery*, Faber, London, 1942.
- BEAN, Keith, *Famous Waterways of the World*, Frederick Muller, London, 1956.

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